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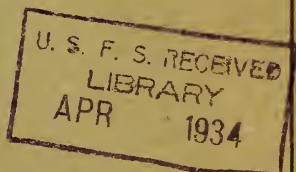
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UNITED STATES DEPARTMENT OF AGRICULTURE
MISCELLANEOUS PUBLICATION No. 181

LIST OF BULLETINS OF THE
AGRICULTURAL EXPERIMENT STATIONS
FOR THE CALENDAR YEARS
1931 AND 1932

By

CATHERINE E. PENNINGTON, Junior Librarian
Office of Experiment Stations



WASHINGTON, D.C., MARCH 1934

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¹ This publication is a continuation of Department Bulletin 1199, the three supplements thereto, and Miscellaneous Publications 65 and 123.

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388. Cost of pumping for irrigation in Colorado, with data. W. E. Code. Mar. 1932.
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324. Chemical investigations of the tobacco plant: II, The chemical changes that occur during the curing of Connecticut shade-grown tobacco. H. B. Vickery and G. W. Pucher. Jan. 1931.
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326. Tobacco substation at Windsor, report for 1930. P. J. Anderson, T. R. Swanback, O. E. Street, [and others]. Feb. 1931.
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333. Microchemical soil tests. M. F. Morgan. Jan. 1932.
334. Potash requirements of the tobacco crop. P. J. Anderson, T. R. Swanback, and O. E. Street. Feb. 1932.
335. Tobacco substation at Windsor, report for 1931. P. J. Anderson, T. R. Swanback, and O. E. Street. Mar. 1932.
336. Commercial feeding stuffs, report on inspection, 1931. E. M. Bailey. Mar. 1932.
337. Report of the director for the year ending October 31, 1931. W. L. Slate. Apr. 1932.
338. Connecticut state entomologist, thirty-first report, 1931. W. E. Britton. May 1932.
339. Chemical investigations of the tobacco plant: III, Tobacco seed. L. B. Mendel [and others]. June 1932.
340. The food value of milk. July 1932. Revision of 215.
341. The thirty-sixth report on food products and the twenty-fourth report on drug products, 1931. E. M. Bailey. July 1932.
342. Profile characteristics of New England forest soils. H. A. Lunt. Sept. 1932.
343. Commercial fertilizers, report for 1932. E. M. Bailey. Nov. 1932.

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174. An economic study of the agriculture of the Connecticut Valley: 4, A history of tobacco production in New England. C. I. Hendrickson. Oct. 1931.
175. A record of the Guernsey herd at the Connecticut agricultural college. G. C. White and Charles Oliver. Dec. 1931.
176. Report of the director for the year ending June 30, 1931. W. L. Slate. Mar. 1932.
177. The physiology of normal and frizzle fowl, with special reference to the basal metabolism. F. G. Benedict, Walter Landauer, and E. L. Fox. Apr. 1932.
178. Pullorum disease of domestic fowl, a monograph. L. F. Rettger and W. N. Plastridge. May 1932.
179. The effect of irradiating eggs with ultra-violet light upon the development of chicken embryos, experiments with frizzle and creeper fowl. Walter Landauer. June 1932.
180. An economic study of the agriculture of the Connecticut Valley: 5, Factors affecting the prices and acreages of cigar tobacco in the United States, a preliminary study based on data for the period from 1922 to 1929. H. B. Boyd. June 1932.
181. Report of the director for the year ending June 30, 1932. W. L. Slate. Sept. 1932.
182. Connecticut rural youth and farming occupations. J. L. Hypes, V. A. Rapport, and E. M. Kennedy. Nov. 1932.

DELAWARE AGRICULTURAL EXPERIMENT STATION, NEWARK

BULLETINS

168. (Technical bulletin 12.) Fruit jellies: VII, The role of pectin: 3, Effect of temperature upon the extraction of pectin. P. B. Myers and G. L. Baker. May 1931.
169. Studies in taxation in Delaware highway finance. M. M. Daugherty. May 1931.
170. Soybeans as a protein supplement to corn for fattening pigs on forage. A. E. Tomhave. May 1931.
171. The marketing of Delaware cantaloupes: Part II, Consumer demand. H. S. Gabriel. June 1931.
172. Annual report of the director for the fiscal year ending June 30, 1931. C. A. McCue. Nov. 1931.
173. Studies in taxation, receipts and expenditures of county governments in Delaware. M. M. Daugherty. Nov. 1931.
174. Self selection of feeds by hens. A. E. Tomhave and C. W. Mumford. Nov. 1931.
175. Life history and habits of the plum curculio in Delaware. H. L. Dozier, L. L. Williams, and H. G. Butler. Apr. 1932.
176. Life history of the grape-berry moth in Delaware. H. L. Dozier, L. L. Williams, and H. G. Butler. Apr. 1932.
177. The influence of lime, fertilizer and manure on the buffer action of a soil. H. C. Harris. May 1932.
178. Farm tenancy in Delaware. R. O. Bausman. Aug. 1932.
179. Annual report of the director for the fiscal year ending June 30, 1932. C. A. McCue [and others]. Dec. 1932.

FLORIDA AGRICULTURAL EXPERIMENT STATION, GAINESVILLE

BULLETINS

223. Miscellaneous tropical and sub-tropical Florida fruits. Harold Mowry and L. R. Toy. Jan. 1931.
224. Florida truck crop competition: I, Inter-state and foreign. C. V. Noble and M. A. Brooker. Feb. 1931.
225. Diseases of watermelons in Florida. M. N. Walker and G. F. Weber. Feb. 1931.
226. (Technical bulletin.) Development of strains of cigar wrapper tobacco resistant to blackshank (*Phytophthora nicotianae* Breda de Haan). W. B. Tisdale. Mar. 1931.
227. Citrus propagation. A. F. Camp. Apr. 1931.
228. Native and exotic palms of Florida. Harold Mowry. May 1931. Revision of Bul. 184.
229. Diseases of citrus in Florida. A. S. Rhoads and E. F. DeBusk. June 1931.
230. (Technical bulletin.) Spraying and dusting cucumbers for control of downy mildew from 1925 to 1930. G. F. Weber. June 1931.
231. I, Salt sick, its cause and prevention; II, mineral supplements for cattle. R. B. Becker, W. M. Neal, and A. L. Shealy. June 1931.
232. Florida truck and garden insects. J. R. Watson. June 1931. Revision of Bul. 151.
233. (Technical bulletin.) Determination of the winter survival of the cotton boll weevil by field counts. E. F. Grossman and P. W. Calhoun. June 1931.
234. (Technical bulletin.) The two-spotted mite (*Tetranychus telarius* L.) on *Asparagus plumosus*. J. W. Wilson. June 1931.

235. (Technical bulletin.) Crimp, a nematode disease of strawberry. A. N. Brooks. July 1931.
236. Swine production in Florida. A. L. Shealy and W. J. Sheely. June 1931.
237. General properties of some tropical and sub-tropical fruits of Florida. O. D. Abbott. June 1931.
238. Florida truck crop competition: II, Intra-state. J. L. Wann. Aug. 1931.
239. (Technical bulletin.) Heat treatment for controlling the insect pests of stored corn. E. F. Grossman. Sept. 1931.
240. (Technical bulletin.) Hibernation of the cotton boll weevil under controlled temperature and humidity. E. F. Grossman. Oct. 1931.
241. (Technical bulletin.) Methods for making counts of boll weevil infestation. E. F. Grossman. Nov. 1931.
242. (Technical bulletin.) Bottom rot and related diseases of cabbage caused by *Corticium vagum* B. & C. G. F. Weber. Nov. 1931.
243. Type, variety, maturity and physiological anatomy of citrus fruits as affecting quality of prepared citrus juices. A. F. Camp, H. P. Traub, L. W. Gaddum, and A. L. Stahl. May 1932.
244. Diseases of peppers in Florida. G. F. Weber. Mar. 1932.
245. Farmers' cooperative associations in Florida: I, Status and legal phases. M. A. Brooker and H. G. Hamilton. Apr. 1932.
246. An economic study of 249 dairy farms in Florida. Bruce McKinley. May 1932.
247. (Technical bulletin.) Variations in the tung-oil tree. Harold Mowry. May 1932.
248. A study of range cattle management in Alachua County, Florida. P. D. Camp. June 1932.
249. (Technical bulletin.) Gray leafspot, a new disease of tomatoes. G. F. Weber, Stacy Hawkins, and D. G. A. Kelbert. June 1932.
250. Some major celery insects in Florida. E. D. Ball, B. L. Boyden, and W. E. Stone. June 1932.
251. Control of the celery leaf-tier in Florida. W. E. Stone, B. L. Boyden, C. B. Wisecup, and E. C. Tatman. July 1932.
252. The melon aphid (*Aphis gossypii* Glover). C. C. Goff and A. N. Tissot. Sept. 1932.
253. Studies on summer cover crops in a Pineapple orange grove. W. E. Stokes, R. M. Barnette, H. W. Jones, and J. H. Jefferies. Oct. 1932.
254. Grading, packing and stowing Florida produce. M. R. Ensign. Oct. 1932.
255. Soybeans for silage. R. B. Becker, W. M. Neal, C. R. Dawson, and P. T. D. Arnold. Nov. 1932.
256. Some diseases of cabbage and other crucifers in Florida. G. F. Weber. Dec. 1932.

GEORGIA AGRICULTURAL EXPERIMENT STATION, EXPERIMENT

BULLETINS

166. Cultivated berries: Raspberries, blackberries, dewberries, blueberries. J. G. Woodroof. Jan. 1931.
167. Vitamin content of turnip greens, collards, cantaloupes, and peaches. C. L. Newton. Aug. 1931.
168. Preservation freezing, some effects on quality of fruits and vegetables. J. G. Woodroof. Dec. 1931.
169. A study of ammonia and nitrate nitrogen for cotton: I, Influence on absorption of other elements. K. T. Holley, T. A. Pickett, and T. G. Dulin. Dec. 1931.
170. Treating cotton seed by the dusting method. N. C. Woodroof. Dec. 1931.
171. A new wheat for Georgia, with suggestions for culture. R. P. Bledsoe. Aug. 1932.
172. Propagation of pecans. J. E. Bailey and J. G. Woodroof. Nov. 1932.
173. Some effects of chlorophyll in the diet of the albino rat. F. R. Edwards and K. T. Holley. Dec. 1932.

HAWAII AGRICULTURAL EXPERIMENT STATION, HONOLULU

BULLETINS

62. Physical properties of Hawaii soils with special reference to the colloidal fraction. Charles Richter. July 1931.
63. Physicochemical properties of edible-canna and potato starches. J. C. Ripperton. Oct. 1931.
64. The pigeon pea (*Cajanus indicus*), its improvement, culture, and utilization in Hawaii. F. G. Krauss. Mar. 1932.
65. Range grasses of Hawaii. J. C. Ripperton, R. A. Goff, D. W. Edwards, and W. C. Davis. June 1933.
66. Survey of the physical features that affect the agriculture of the Kona District of Hawaii. H. A. Powers, J. C. Ripperton, and Y. B. Goto. 1932.

IDAHO AGRICULTURAL EXPERIMENT STATION, MOSCOW

BULLETINS

176. Lamb feeding investigation. R. F. Johnson, E. F. Rinehart, and C. W. Hickman. Feb. 1931.
177. Crops to replace spring wheat in northern Idaho. H. W. Hulbert. Feb. 1931.
178. Grains for the cut-over lands of northern Idaho. J. H. Christ. Jan. 1931.
179. Work and progress [report of the director] of the agricultural experiment station for the year ending December 31, 1930. E. J. Iddings. June 1931.

180. Rural electrification development in Idaho. Hobart Beresford. Apr. 1931.
181. Rate of seeding for peas. H. W. Hulbert and F. L. Burkart. June 1931.
182. Field studies of the beet leafhopper (*Eutettix tenellus* Baker). R. W. Haeghele. Feb. 1932.
183. Sterilizing dairy utensils on the farm. D. R. Theophilus and F. W. Atkeson. June 1931.
184. Physiological studies of the cracking of sweet cherries. Leif Verner and E. C. Blodgett. Nov. 1931.
185. Controlling the firebrat in buildings by means of poisoned bait. Claude Wakeland and Harold Waters. Nov. 1931.
186. Tillage methods for high altitude dry farming. W. A. Moss. Oct. 1931.
187. The removal of arsenical residue from apples. R. S. Snyder and H. P. Magnuson. Nov. 1931.
188. Planning the farm business for the year ahead. P. A. Eke and E. T. Benson. June 1932.
189. Methods affecting the efficiency of chlorate weed killers. H. W. Hulbert, R. S. Bristol, and L. V. Benjamin. Dec. 1931.
190. Type in market swine and its influence on quality of pork. J. E. Nordby. May 1932.
191. Hog prices and the hog enterprise on Idaho farms. T. L. Gaston. May 1932.
192. Work and progress [report of the director] of the agricultural experiment station for the year ending December 31, 1931. E. J. Iddings. May 1932.
193. Efficiency of cream stations in cream collection. C. O. Youngstrom, D. R. Theophilus, F. W. Atkeson, and G. N. Tucker. Sept. 1932.
194. Fattening range lambs in Idaho. E. F. Rinehart, C. W. Hickman, and R. F. Johnson. Dec. 1932.
195. A method of determining what to produce, budgeting the farm program on the Twin Falls irrigation project. Byron Hunter and P. A. Eke. Dec. 1932.
196. Prune maturity and storage. L. R. Tucker and Leif Verner. Dec. 1932.

RESEARCH BULLETINS

9. Border effect in variety tests of small grains. H. W. Hulbert, C. A. Michels, and F. L. Burkart. June 1931.
10. Codling moth life history in southwestern Idaho. Claude Wakeland and P. L. Rice. Jan. 1932.

ILLINOIS AGRICULTURAL EXPERIMENT STATION, URBANA

BULLETINS

364. Fertilizing tomatoes, sweet corn, and muskmelons in a three-year rotation. J. W. Lloyd. Jan. 1931.
365. Prices of Illinois farm products in 1930. L. J. Norton. Feb. 1931.
366. Effect of soybeans and soybean oil meal on quality of pork. Sleeter Bull, W. E. Carroll, F. C. Olson, G. E. Hunt, and J. H. Longwell. Apr. 1931.
367. A technical study of the growth of White Leghorn chickens. H. H. Mitchell, L. E. Card, and T. S. Hamilton. Apr. 1931.
368. Effect of carbonation on bacterial content and keeping quality of dairy products. M. J. Prucha, J. M. Brannon, and H. A. Ruehe. May 1931.
369. Vitamin-B and vitamin-G content of cereals. R. A. Hetler, C. R. Meyer, and Dorothy Hussemann. May 1931.
370. Crop yields from Illinois soil experiment fields in 1930, together with a general summary for the rotation periods ending in 1930. F. C. Bauer. May 1931.
371. An investigation of the quality of Illinois grown wheat. R. W. Stark. June 1931.
372. Living expenditures of a selected group of Illinois farm and small-town families (1929-30). R. C. Freeman and M. A. Souder. Sept. 1931.
373. Harvesting the corn crop in Illinois, an economic study of methods and relative costs. P. E. Johnston and K. H. Myers. Sept. 1931.
374. Management factors that influence farm profits in southwest Illinois, a study based on records from more than a hundred farms in the wheat and dairy area neighboring St. Louis. R. H. Wilcox, C. W. Crickman, and R. G. Trummel. Oct. 1931.
375. Food requirements of pregnancy in swine. H. H. Mitchell, W. E. Carroll, T. S. Hamilton, and G. E. Hunt. Nov. 1931.
376. A study of the framework of the apple tree and its relation to longevity. W. A. Ruth and V. W. Kelley. Feb. 1932.
377. Fertilizer experiments with ten market-garden crops in Cook County, Illinois: Spinach, lettuce, beets, peas, beans, tomatoes, peppers, carrots, potatoes, and cauliflower. J. W. Lloyd and E. P. Lewis. Feb. 1932.
378. Alfalfa wilt as influenced by soil temperature and soil moisture. Benjamin Koehler and F. R. Jones. June 1932.
379. Causes of damage to fruits and vegetables during shipment. J. W. Lloyd and H. M. Newell. June 1932.
380. Price differences between four hog markets used by Illinois stockmen, Chicago, East St. Louis, Indianapolis, and Cincinnati. L. J. Norton and R. C. Ashby. July 1932.
381. Air circulation and temperature conditions in refrigerated carloads of fruit. H. M. Newell and J. W. Lloyd. July 1932.

382. Crop yields from Illinois soil experiment fields in 1931, together with a general summary for the rotation periods ending in 1931. F. C. Bauer. July 1932.
383. Anthracnose and gray bark of red raspberries, identification and control. H. W. Anderson and K. J. Kadow. Sept. 1932.
384. Genetics and breeding in the improvement of the soybean. C. M. Woodworth. Nov. 1932.
385. A study of the structure of the skin and pubescence of the peach in relation to brushing. M. J. Dorsey and J. S. Potter. Nov. 1932.
386. Supply and marketing of soybeans and soybean products. C. L. Stewart, W. L. Burlison, L. J. Norton, and O. L. Whalin. Dec. 1932.
387. How to make honey-cream, a mixture of high-test sweet cream and extracted honey. P. H. Tracy. Dec. 1932.

SOIL REPORTS

48. Effingham County soils. E. A. Norton, R. S. Smith, E. E. DeTurk, F. C. Bauer, and L. H. Smith. Feb. 1931.
49. Wayne County soils. E. A. Norton, R. S. Smith, E. E. DeTurk, F. C. Bauer, and L. H. Smith. June 1931.
50. Macoupin County soils. E. A. Norton, R. S. Smith, E. E. DeTurk, F. C. Bauer, and L. H. Smith. Jan. 1932.
51. Fulton County soils. R. S. Smith, E. E. DeTurk, F. C. Bauer, and L. H. Smith. Mar. 1932.
52. Fayette County soils. E. A. Norton, R. S. Smith, E. E. DeTurk, F. C. Bauer, and L. H. Smith. May 1932.
53. Calhoun County soils. R. S. Smith, E. E. DeTurk, F. C. Bauer, and L. H. Smith. May 1932.

INDIANA AGRICULTURAL EXPERIMENT STATION, LAFAYETTE

BULLETINS

345. Spray residue and its removal from apples. O. W. Ford and C. L. Burkholder. Feb. 1931.
346. Early, intermediate and late cut soybean hay for milk and butterfat production. J. H. Hilton, J. W. Wilbur, and W. F. Epple. Feb. 1931.
347. Morphological development of sweet corn pericarp in two inbred lines and their F_1 hybrid. E. S. Haddad. Mar. 1931.
348. A study of methods for cleaning milking machines. E. H. Parfitt. Jan. 1931.
349. The adaptability of the combine to Indiana farms. I. D. Mayer and J. C. Bottum. Mar. 1931.
350. Tomato color as related to quality in the tomato canning industry. J. H. MacGillivray. Apr. 1931.
351. The relation of insects to the transmission of potato leafroll and tomato mosaic in Indiana. C. R. Cleveland. Apr. 1931.
352. The Indianapolis apple market, 1929-1930 apple crop. F. C. Gaylord and H. M. Cleaver. Mar. 1931.
353. Lamb production: II, Feeding lambs on pasture, 1930. F. G. King and Claude Harper. July 1931.
354. Ground soybeans and linseed oil meal for dairy calves. J. H. Hilton, J. W. Wilbur, and S. M. Hauge. Nov. 1931.
355. A field and laboratory test on plant material for diagnosing phosphorus deficiencies. S. F. Thornton. Feb. 1932.
356. Dusting vs. spraying of apples, 1927-1931. C. L. Burkholder. Dec. 1931.
357. Cooperative shipping of eggs in Indiana. E. R. Menefee. Jan. 1932.
358. Factors affecting shrinkage in shipping hogs by rail. J. R. Wiley. Feb. 1932.
359. Economic utilization of land for pasture in southern Indiana. G. E. Young. Feb. 1932.
360. Sheep feeding: Fattening western lambs, 1929-1930, 1930-1931, 1931-1932. F. G. King and Claude Harper. Apr. 1932.
361. Marketing Indiana potatoes, local supply and imports. F. C. Gaylord and H. M. Cleaver. Mar. 1932.
362. Mechanical corn pickers in Indiana. L. G. Hobson and R. H. Wileman. June 1932.
363. Some factors affecting mechanical refrigeration for dairy farms. T. E. Hinton and E. H. Parfitt. Dec. 1932.
364. Variation in local marketing procedure for grain, hay, livestock, and feed in northwestern Indiana. Lynn Robertson and E. R. Bonham. Sept. 1932.
365. Changes in farming in Lake and Porter Counties, Indiana, as a result of nearness to industrial cities. Lynn Robertson. Oct. 1932.
366. The response of greenhouse crops to electric light supplementing daylight. Laurenz Greene, R. B. Withrow, and M. W. Richman. Dec. 1932.
367. Experiments with electric water heaters for poultry. T. E. Hinton and C. W. Carrick. Nov. 1932.
368. Studies in Indiana farm woods: I, The natural regeneration of farm woods following the exclusion of livestock. R. K. Day and Daniel DenUyl. Dec. 1932.
369. The human factor in the management of Indiana farms. W. W. Wilcox and O. G. Lloyd. Aug. 1932.

IOWA AGRICULTURAL EXPERIMENT STATION, AMES

BULLETINS

276. A soil management program for Carrington loam. W. H. Stevenson [and others]. Jan. 1931.
277. Swine performance record litter comparisons. C. C. Culbertson, J. M. Evvard, H. H. Kildee, and M. D. Helser. Feb. 1931.
278. Dried buttermilk for growing and fattening pigs. J. M. Evvard, C. C. Culbertson, and Q. W. Wallace. Apr. 1931.
279. The effect of various containers on the growth of vegetable plants. E. S. Haber. May 1931.
280. A soil management program for Grundy silt loam. W. H. Stevenson [and others]. June 1931.
281. Value of family living on Iowa farms. E. E. Hoyt and E. C. Morgan. June 1931.
282. Soybean and alfalfa hays for wintering pregnant ewes. W. E. Hammond, J. M. Evvard, and C. C. Culbertson. June 1931.
283. Retail credit in Iowa farmers' elevators. Frank Robotka. June 1931.
284. The trend of corn prices. G. S. Shepherd. July 1931.
285. Observations on the counting of bacteria in ice cream by the plate method. N. E. Fabricius and B. W. Hammer. Dec. 1931.
286. The pasteurization efficiencies secured with milk from individual farms. R. V. Hussong and B. W. Hammer. Dec. 1931.
287. The effect of processing, handling, and of testing procedures on the fat content of ice cream. E. W. Bird and E. A. Johnson. Dec. 1931.
288. Gladiolus varieties for Iowa. E. C. Volz and D. C. Fairburn. June 1932.
289. Costs and utilization of corn in seven Iowa counties. H. L. Thomas and J. A. Hopkins, Jr. June 1932. Also abridged edition.
290. The ages of breeding cattle and the possibilities of using proven sires. J. L. Lush and M. D. Lacy. June 1932. Also abridged edition.
291. Soil management on the Carrington silt loam. P. E. Brown, H. R. Meldrum, A. J. Englehorn, and R. E. Bennett. June 1932.
292. The use of water bowls in the dairy barn. C. Y. Cannon, E. N. Hansen, and J. R. O'Neal. June 1932.
293. The peppers. A. T. Erwin. June 1932.
294. An economic study of the hog enterprise. J. A. Hopkins, Jr. June 1932.
295. A plan for adjusting cash rent to changes in the prices of farm products. Millard Peck. Oct. 1932.
296. Rural fire waste in Iowa, 1930-31. Henry Giese and E. D. Anderson. Nov. 1932.

RESEARCH BULLETINS

135. Nitrate assimilation in soils. F. B. Smith and P. E. Brown. Jan. 1931.
136. Supplements to a milk diet for dairy calves. C. Y. Cannon. Jan. 1931.
137. Bacteriology of butter: II. A method for the microscopic examination of butter. B. W. Hammer and J. A. Nelson. Feb. 1931.
138. A gene influencing the composition of the culm in maize. M. T. Jenkins and Fisk Gerhardt. May 1931.
139. The measurement of the degree of saturation of soils with bases. R. H. Walker, B. J. Firkins, and P. E. Brown. May 1931.
140. The secular movement of corn prices. G. S. Shepherd. June 1931.
141. Bacteriology of butter: III. A method for studying the contamination from churns. B. W. Hammer and H. C. Olson. June 1931.
142. Genetic tests for linkage between row number genes and certain qualitative genes in maize. E. W. Lindstrom. June 1931.
143. The biology of the stalk borer (*Papaipema nebris* Gn.). G. C. Decker. June 1931.
144. Chemistry of butter and butter making: I. A comparison of four methods for the analysis of butter with an explanation of a discrepancy found to exist in the fat determinations. E. W. Bird and D. F. Breazeale. Dec. 1931.
145. Bacteriology of butter: IV. Bacteriological studies on surface taint butter. H. A. Derby and B. W. Hammer. Dec. 1931.
146. Studies on the development of butter cultures from mixtures of organisms. R. S. Farmer and B. W. Hammer. Dec. 1931.
147. Methods for determining carbon dioxide production in soils. F. B. Smith and P. E. Brown. Jan. 1932.
148. Some chemical and bacteriological effects of various kinds and amounts of lime on certain southern Iowa soils: Part I. Laboratory and greenhouse experiments. R. H. Walker, P. E. Brown, and A. W. Young. Feb. 1932.
149. The pathogenicity of *Fusarium nivium* (EFS.) and the development of wilt resistant strains of *Citrullus vulgaris* (Schrad.). D. R. Porter and I. E. Melhus. Feb. 1932.
150. Length and floor construction of dairy stalls. Henry Giese and C. Y. Cannon. Feb. 1932.
151. Studies on the changes in nectar concentration produced by the honeybee, *Apis mellifera*: Part I. Changes which occur between the flower and the hive. O. W. Park. Apr. 1932.

152. Factors influencing egg production: III, The association of the date of hatch with date of first egg, sexual maturity and egg production in S. C. White Leghorns. C. W. Knox. Oct. 1932.
153. Selection for resistance to fowl typhoid in the chicken with reference to its inheritance. W. V. Lambert and C. W. Knox. Dec. 1932.
154. Normal growth in dairy cattle. D. L. Espe, C. Y. Cannon, and E. N. Hansen. Nov. 1932.

SOIL REPORTS

66. Lyon County soils. P. E. Brown, A. M. O'Neal, D. S. Gray, and H. R. Meldrum. June 1932.
67. Buchanan County soils. P. E. Brown, T. H. Benton, H. R. Meldrum, and R. E. Bennett. June 1932.
68. Union County soils. P. E. Brown, J. A. Elwell, H. R. Meldrum, and A. J. Englehorn. June 1932.

KANSAS AGRICULTURAL EXPERIMENT STATION, MANHATTAN

BULLETINS

253. Tame pastures in Kansas. A. E. Aldous and J. W. Zahnley. Jan. 1931.
254. Growing an orchard in Kansas. R. J. Barnett. Feb. 1931.
255. Dairy farm organization in southeastern Kansas. J. A. Hodges, R. S. Kifer, and R. D. Nichols. Feb. 1931.
256. Farm production and consumption of poultry in Kansas. Morris Evans and H. L. Collins. Jan. 1932.
257. The poultry enterprise on Kansas farms. Morris Evans. July 1932.
258. Factors influencing the time of buying feeder steers and of selling them as choice summer-fed steers. H. J. Henney. Aug. 1932.
259. The organization and operation of cooperative creameries in Kansas. George Montgomery and W. J. Caulfield. Aug. 1932.
260. Soil fertility. R. I. Throckmorton and F. L. Duley. Sept. 1932.
261. Wheat as a fattening feed for cattle. A. D. Weber and W. E. Connell. Nov. 1932.
262. Tillage practices for southwestern Kansas. R. L. Von Trebra and F. A. Wagner. Nov. 1932.
263. The codling moth in southern Kansas and recommendations for its control. P. M. Gilmer and R. L. Parker. Dec. 1932.

TECHNICAL BULLETINS

27. Resistance of varieties of winter wheat to Hessian fly, *Phytophaga destructor* (Say). R. H. Painter, S. C. Salmon, and J. H. Parker. Aug. 1931.
28. Some factors influencing the mid-season potato market. E. A. Stokdyk. Aug. 1931.
29. Dissemination of pullorum disease in the incubator. L. D. Bushnell and L. F. Payne. Aug. 1931.
30. Twenty years of testing varieties and strains of winter wheat at the Kansas agricultural experiment station. S. C. Salmon and H. H. Laude. Feb. 1932.
31. A study of mortality among young pigs, the influence of wheat-germ meal on the reproduction and suckling of pigs. C. E. Aubel, J. S. Hughes, and H. F. Lienhardt. Feb. 1932.
32. The identification of certain native and naturalized grasses by their vegetative characters. R. F. Copple and A. E. Aldous. Mar. 1932.
33. The quality of wheat as affected by farm storage. C. O. Swanson and F. C. Fenton. Dec. 1932.

KENTUCKY AGRICULTURAL EXPERIMENT STATION, LEXINGTON

BULLETINS

314. (Research bulletin.) The effect of soil reaction on the growth of tomatoes and lettuce and on the nitrogen, phosphorus and manganese content of the soil and plant. E. M. Emmert. Mar. 1931.
315. Commercial feeds in Kentucky in 1930. J. D. Turner, H. D. Spears, W. G. Terrell, and L. V. Amburgey. June 1931.
316. The standard of living of farm families in Grayson County, Kentucky. Merton Oyler. June 1931.
317. Farm organization and management in Grayson County. W. L. Rouse, H. W. Hawthorne, and Z. L. Galloway. July 1931.
318. Adaptability of red clovers from different regions, to Kentucky. E. N. Fergus. Aug. 1931.
319. Organization and management problems of cooperative strawberry marketing associations in Kentucky. C. D. Phillips and D. G. Card. Aug. 1931.
320. (Research bulletin.) Studies on *Shigella equirulis* (*Bacterium viscosum equi*). P. R. Edwards. Sept. 1931.
321. (Research bulletin.) Effect of hydrogen-ion concentration on the growth of strawberries in sand and in soil. C. S. Waltman. Sept. 1931.
322. Report on soil experiment fields. George Roberts and J. F. Freeman. Sept. 1931.
323. Some factors affecting the price of White Burley tobacco. D. G. Card. Oct. 1931.
324. (Research bulletin.) An analysis of clover failure in Kentucky. E. N. Fergus. Nov. 1931.
325. Analyses of commercial fertilizers. H. E. Curtis, H. R. Allen, and Lelah Gault. Dec. 1931.

326. Forestry in the economic life of Knott County, Kentucky. R. B. Craig. Feb. 1932.
327. (Research bulletin.) 1, Seed transmission and sterility studies of two strains of tobacco ringspot; 2, a virus disease of delphinium and tobacco; 3, a virus disease of plum and peach. W. D. Valleau. Feb. 1932.
328. Tobacco diseases in Kentucky. W. D. Valleau and E. M. Johnson. Mar. 1932.
329. (Research bulletin.) The resistance of certain red clovers and alfalfas to leafhopper injury. H. H. Jewett. June 1932.
330. Commercial feeds in Kentucky in 1931. J. D. Turner, H. D. Spears, W. G. Terrell, and L. V. Amburgey. June 1932.
331. Soils and fertilizer experiments, experiment station farm, Lexington. George Roberts and E. J. Kinney. July 1932.
332. I, Winter versus summer feeding of corn to heavy steers finished on grass; II, wheat as a fattening feed for yearling steers. E. S. Good and W. J. Harris. July 1932.
333. (Research bulletin.) Infections of fetuses and foals. W. W. Dimock and P. R. Edwards. Aug. 1932. Supplement. Mar. 1933.
334. (Research bulletin.) The comparative effect of muriate and sulfate of potash on the composition and quality of White Burley tobacco. P. E. Karraker. Oct. 1932.
335. (Research bulletin.) The pH of fresh and storage eggs. S. E. Erikson, R. E. Boyden, J. H. Martin, and W. M. Insko, Jr. Nov. 1932.
336. Analyses of commercial fertilizers. H. E. Curtis, H. R. Allen, and Lelah Gault. Dec. 1932.

LOUISIANA AGRICULTURAL EXPERIMENT STATION, BATON ROUGE

BULLETINS

219. Financing production and marketing of Louisiana strawberries and suggested reorganization. R. L. Thompson. Jan. 1931.
220. Home canning of meat under conditions in Louisiana. Gertrude Sunderlin. Jan. 1931.
221. Cotton price-quality relationships in local markets of Louisiana. C. C. Farrington. May 1931.
- [222.] Soil fertility investigations, sugar cane district of Louisiana. A. M. O'Neal, S. J. Breaux, Jr., Oswald Schreiner, and L. A. Hurst. [1931.]
223. Studies on sugar cane roots. T. C. Ryker and C. W. Edgerton. July 1931.
224. The organization and financial returns of 129 small sized Louisiana cane farms, 1930. G. H. Reuss. July 1931.
225. Control of strawberry leaf blights in Louisiana. A. G. Plakidas. July 1931.
226. Part I, Sugarcane variety test fields. C. B. Gouaux.— Part II, Sugarcane variety report for season 1930-31. E. C. Simon. July 1931.
227. Cotton seed for dairy cows. R. H. Lush and A. J. Gelpi. July 1932.
228. Protein supplements and pastures for swine. C. I. Bray, J. B. Francioni, Jr., and E. M. Gregory. July 1932.
229. Storage studies of Louisiana eggs. C. W. Upp. July 1932.
230. Blackstrap molasses for farm work mules. M. G. Snell and W. G. Taggart. Sept. 1932.
231. Louisiana farm taxes: Part 1, Cost of government, public revenue and farm taxes; Part 2, the general property tax and farm taxes. B. W. Allin and R. L. Thompson.— Part 3, Proposed revision in Louisiana's tax system. R. L. Thompson. 1932-1933.
232. Cotton root development in certain south Louisiana soils. H. B. Brown, E. C. Simon, and A. K. Smith. Dec. 1932.

MAINE AGRICULTURAL EXPERIMENT STATION, ORONO

BULLETINS

358. Comparisons of apparently healthy strains and tuber lines of potatoes. Donald Folsom, F. V. Owen, and H. B. Smith. July 1931.
359. Some economic phases of the marketing of Maine apples. M. S. Parsons. Nov. 1931.
360. Progress of investigations, abstracts of papers not included in bulletins, finances, meteorology, index. Dec. 1931.
361. Costs and returns in producing milk, raising heifers, and keeping herd bulls in Maine. G. F. Dow. Jan. 1932.
362. Potato spraying and dusting experiments 1929 to 1931. Reiner Bonde. Mar. 1932.
363. The Maine agricultural experiment station, summary report of progress for the fiscal year ending June 30, 1932. Dec. 1932.

MARYLAND AGRICULTURAL EXPERIMENT STATION, COLLEGE PARK

BULLETINS

324. Sharp vs. dull ice cream freezer blades and freezing efficiency. R. C. Munkwitz and DeVoe Meade. Jan. 1931.
325. Miscellaneous feeding trials with poultry: I, The effects of corn cockle on poultry; II, smut damaged wheat for poultry; III, results of trials with feeds suspected of having caused mortality in Maryland flocks. G. D. Quigley and R. H. Waite. Feb. 1931.
326. Effect of fall applications of sodium nitrate upon the color, keeping quality and nitrogen content of apples. W. W. Aldrich. May 1931.
327. Peach rejuvenation studies in Maryland. A. L. Schrader and E. C. Auchter. May 1931.
328. The corn earworm, biology and control. L. P. Ditman and E. N. Cory. June 1931.
329. Corn silage production. J. E. Metzger and R. L. Sellman. Oct. 1931.
330. Calf feeding. M. H. Berry. Dec. 1931.
331. Contagious abortion in Experiment station dairy herd. L. W. Ingham and DeVoe Meade. Feb. 1932.
332. Oat feed roughage. M. H. Berry. Apr. 1932.
333. Fertilization of early potatoes. J. E. Metzger and E. H. Schmidt. May 1932.
334. The poultry house floor. R. H. Waite. June 1932.
335. The vegetative propagation of plants. F. E. Gardner. June 1932.
336. Feeding wheat to fattening hogs. B. E. Carmichael. June 1932.
337. Organization and management of Maryland farms, Piedmont Plateau region. S. H. DeVault and Ray Hurley. Sept. 1932.
338. Economic efficiency of the farm layout in Maryland. A. B. Hamilton and S. H. DeVault. Oct. 1932.
339. Taxation in Maryland with special reference to agriculture. W. P. Walker and S. H. DeVault. Dec. 1932.
340. Salt tolerance of baby chicks. G. D. Quigley and R. H. Waite. Dec. 1932.
341. Housing conditions in relation to farm labor turnover, a study of 1090 farm houses in five counties in Maryland. Margaret Coffin. Dec. 1932.
342. Fish meal versus cottonseed meal as a feed for dairy cows. L. W. Ingham. Dec. 1932.

MASSACHUSETTS AGRICULTURAL EXPERIMENT STATION, AMHERST

BULLETINS

271. Annual report for the fiscal year ending Nov. 30, 1930. F. J. Sievers [and others]. Feb. 1931.
272. Experiments with hedges. F. A. Waugh. Mar. 1931.
273. Infectious trachitis. C. S. Gibbs. Apr. 1931.
274. The identification of apple varieties from non-bearing trees. J. K. Shaw and A. P. French. Apr. 1931.
275. Planning the farm business on three dairy-fruit farms in Massachusetts. R. L. Mighell. June 1931.
276. Increasing soil acidity as a means of controlling black root-rot of tobacco. W. L. Doran. June 1931.
277. Flower pot composition and its effect on plant growth. L. H. Jones. Oct. 1931.
278. Infectious laryngotracheitis carriers. C. S. Gibbs. Dec. 1931.
279. Onion spraying and dusting experiments. W. L. Doran and A. I. Bourne. Dec. 1931.
280. Annual report for the fiscal year ending Nov. 30, 1931. F. J. Sievers [and others]. Feb. 1932.
281. Experiments with permanent pastures. A. B. Beaumont. Apr. 1932.
282. Relation between egg quality and price. A. H. Lindsey and H. W. Yount. May 1932.
283. Downy mildew of cucumbers. W. L. Doran. May 1932.
284. Questions and answers concerning pullorum disease. Henry Van Roekel. May 1932.
285. The relation of temperature to the activity and control of the plum curculio in apples. W. D. Whitcomb. June 1932.
286. Types of intensity in Rhode Island Reds. F. A. Hays and Ruby Sanborn. June 1932.
287. Frozen fruits and their utilization in frozen dairy products. M. J. Mack and C. R. Fellers. July 1932.
288. The relation of feather pigmentation to intensity of laying in Rhode Island Reds. F. A. Hays. Oct. 1932.
289. Hereditary and environmental factors affecting variability in egg production. F. A. Hays. Dec. 1932.
290. The story of Field A of the Massachusetts agricultural experiment station, a review of experiments with nitrogen fertilizers. F. W. Morse. Nov. 1932.
291. Two systems of feeding dairy cows: High roughage and low grain versus low roughage and high grain. J. B. Lindsey and J. G. Archibald. Dec. 1932.
292. Carbon disulfide emulsion for the control of the root-knot nematode. E. F. Guba. Dec. 1932.

MICHIGAN AGRICULTURAL EXPERIMENT STATION, EAST LANSING

SPECIAL BULLETINS

207. Public health and educational services in Michigan. C. R. Hoffer. Jan. 1931.
208. Services of institutions and organizations in town-county communities. C. R. Hoffer and Margaret Cawood. Feb. 1931.
209. Consumer demand for apples in Michigan. H. P. Gaston. Jan. 1931.
210. Corn growing in Michigan. H. C. Rather and J. R. Duncan. Jan. 1931.
211. A comparison of alfalfa strains and seed sources for Michigan. C. R. Megee. Jan. 1931.
212. School financing in Michigan, a plan to equalize the burden. F. M. Thrun. Jan. 1931.
213. Investigations with oat varieties and diseases in the Upper Peninsula. B. R. Churchill. Feb. 1931.
214. Insect and allied pests of plants grown under glass. E. I. McDaniel. June 1931.
215. Successful farm practices in the Upper Peninsula. G. W. Putnam. Oct. 1931.
216. Root crops for forage in Michigan. H. C. Moore and E. J. Wheeler. Aug. 1931.
217. Marketing Michigan beans. W. O. Hedrick. Nov. 1931.
218. Spray injury studies: I, Injuries from summer applications on apples. W. C. Dutton. Jan. 1932.
219. Spray injury studies: II, Secondary effects of spray injury to apple foliage. W. C. Dutton. Feb. 1932.
220. Comparisons of methods of making spray applications. H. A. Cardinell and H. P. Gaston. May 1932.
221. Controlling the codling moth in southwestern Michigan. Franklin Sherman, III. Apr. 1932.
222. Garden roses. C. E. Wildon. Apr. 1932.
223. Bald Rock wheat. E. E. Down and H. M. Brown. Apr. 1932.
224. Marl, its formation, excavation, and use. S. G. Bergquist, H. H. Musselman, and C. E. Millar. June 1932.
225. Spinach varieties. Harm Drewes. May 1932.
226. Activities of churches in town-country communities. C. R. Hoffer. Aug. 1932.
227. Motor truck marketing of Michigan fruits and vegetables. G. N. Motts. Nov. 1932.

TECHNICAL BULLETINS

109. Studies on bacteriophage in relation to Salmonella and pullorum disease. W. L. Mallmann. Feb. 1931.
110. A contribution to the bacteriology and pathology of the bovine udder. L. B. Sholl and J. P. Torrey. Jan. 1931.
111. Black raspberry studies: I, Some studies of expressed tissue fluids; II, rate of water movement through excised parts of fruiting canes and current season shoots; III, growth and yield as influenced by fertilizers. R. E. Marshall. Feb. 1931.
112. Residual effects of fruit thinning with the Lombard plum. J. H. Waring. May 1931.
113. The stone cells of pear fruits, especially the Kieffer pear. J. W. Crist and L. P. Batjer. May 1931.
114. Fertilizers and soils in relation to Concord grapes in southwestern Michigan. N. L. Partridge and J. O. Veatch. June 1931.
115. The diagnosis of species of Fusarium by use of growth-inhibiting substances in the culture medium. G. H. Coons and M. C. Strong. July 1931.
116. The fruiting habit of the peach as influenced by pruning practices. R. E. Marshall. May 1931.
117. Experiments with the tuber index method of controlling virus diseases of potatoes. J. E. Kotila. May 1931.
118. Investigations in the mosaic disease of bean (*Phaseolus vulgaris* L.). Ray Nelson. Jan. 1932.
119. Vegetative propagation of the black walnut, with special reference to the factors influencing callus formation and union in grafting. B. G. Sitton. Sept. 1931.
120. Trends in purchasing power and cost of production of fruits. G. N. Motts. Aug. 1931.
121. Fermentation studies with soft wheat flours. C. P. Wilsie, C. S. Robinson, and O. B. Winter. May 1932.
122. The dissociation of *Salmonella pullorum* and related species. W. L. Mallmann. Feb. 1932.
123. The diagnosis of Brucella infection in animals and man by rapid macroscopic agglutination. I. F. Huddleson. Jan. 1932.
124. The various effects of frost protectors on tomato plants, a physiological study. R. P. Hibbard. July 1932.
125. Further observations and experiments with mosaic diseases of raspberries, blackberries, and dewberries. C. W. Bennett. Aug. 1932.
126. Experimental work on cucumber fermentation. F. W. Fabian, C. S. Bryan, and J. L. Etchells. Nov. 1932.
127. On the control of caecal coccidiosis in chickens. W. L. Chandler. July 1932.
128. Anatomy of *Phaseolus vulgaris* L. var. Black Valentine. M. T. Douth. Dec. 1932.
129. Studies on the biological decomposition of peat. R. M. Snyder and Z. N. Wyant. Dec. 1932.
130. Field studies of bud sports in Michigan tree fruits. B. D. Drain. Dec. 1932.

QUARTERLY BULLETINS

Quarterly bulletins, vol. 13, no. 3-vol. 15, no. 2. February 1931-November 1932. Each number contains various articles relating to agricultural practice, based on investigational work of the station.

MINNESOTA AGRICULTURAL EXPERIMENT STATION, UNIVERSITY FARM, ST. PAUL

BULLETINS

274. Grinding shelled corn, barley, and alfalfa hay; feeding cane molasses to fattening cattle; peat-land hay as roughage for cattle. W. H. Peters. Jan. 1931.
275. Double-crosses of corn for distribution in Minnesota. H. K. Hayes, I. J. Johnson, and R. F. Crim. Jan. 1931.
276. Systems of farming in eastern and southern Minnesota. L. F. Garey and F. F. Elliott. Jan. 1931.
277. A study of taxation in Minnesota with particular reference to assessments of farm lands. G. B. Clarke and O. B. Jesness. Aug. 1931.
278. Trucking livestock to South St. Paul. E. C. Johnson and E. A. Johnson. June 1931.
279. Relationship of the farm home to the farm business, a study in Cottonwood and Steele Counties, Minnesota. L. A. Studley. July 1931.
280. The farm tractor in Minnesota. A. J. Schwantes and G. A. Pond. Sept. 1931.
281. Effect of height of pruning on size of berries and yield in the Latham raspberry. W. G. Brierley. Aug. 1931.
282. An economic study of crop production in the Red River Valley of Minnesota. G. A. Pond, G. A. Sallee, and C. W. Crickman. Sept. 1931.
283. An economic study of livestock possibilities in the Red River Valley of Minnesota. G. A. Sallee, G. A. Pond, and C. W. Crickman. Sept. 1931.
284. Planning systems of farming for the Red River Valley of Minnesota. G. A. Pond, G. A. Sallee, and C. W. Crickman. Sept. 1931.
285. Establishment, growth, and influence of shelter belts in the prairie region of Minnesota. E. G. Cheyney. Oct. 1931.
286. Cod liver oil in the winter ration of pullets, result of a three-year study of the effects on egg production and the hatching power of the eggs laid. A. W. Edson. Apr. 1932.
287. Growth and decline of farm trade centers in Minnesota, 1905-1930. C. E. Lively. July 1932.
288. Relation of variations in the human factor to financial returns in farming. W. W. Wilcox, Andrew Boss, and G. A. Pond. June 1932.
289. Methods of supplying electric heat to hotbeds. T. M. Currence. Aug. 1932.
290. Filling silos with the field ensilage harvester. A. J. Schwantes and J. B. Torrance. Aug. 1932.
291. Crop investigations on sandy lands. H. K. Hayes, A. C. Arny, H. K. Wilson, and LeRoy Powers. Nov. 1932.
292. Crop investigations on peat lands. H. K. Hayes, A. C. Arny, H. K. Wilson, and LeRoy Powers. Nov. 1932.
293. Farm mortgage foreclosures in Minnesota. E. C. Johnson. Dec. 1932.

TECHNICAL BULLETINS

76. Blackleg disease of potatoes in Minnesota. J. G. Leach. Mar. 1931.
77. Further studies of the test-tube agglutination test for the diagnosis of Bang's disease (contagious abortion). C. P. Fitch, C. R. Donham, and W. L. Boyd. June 1931.
78. Linkage relations in barley. Adrian Daane. Aug. 1931.
79. Studies on natural vs. artificial control of the pine tortoise scale. L. W. Orr. June 1931.
80. The Tabanidae (horseflies) of Minnesota, with special reference to their biologies and taxonomy. C. B. Philip. June 1931.
81. Factors influencing corn prices. R. W. Cox. Sept. 1931.
82. Observations on the quantitative changes in the microflora during the manufacture and storage of butter. Harold Macy, S. T. Coulter, and W. B. Combs. Jan. 1932.
83. Drying of legume hay plants, a study to determine the role of the leaves in drying the stems and the relation of method of drying to loss of leaves and chemical composition. F. L. Higgins. Apr. 1932.
84. Variations in the organic reserves in underground parts of five perennial weeds from late April to November. A. C. Arny. July 1932.
85. The Orthoptera of Minnesota. Morgan Hebard. July 1932.
86. The blood picture of pigs kept under conditions favorable to the production and to the prevention of so-called "anemia of suckling pigs." H. C. H. Kernkamp. Dec. 1932.
87. Studies in the genetics and the cytology of *Ustilago avenae* and *Ustilago levis*. C. S. Holton. Nov. 1932.
88. The nature of saltation in *Fusarium* and *Helminthosporium*. Sydney Dickinson. Oct. 1932.
89. Studies of diseases of canning crops (peas and corn) in Minnesota. G. H. Starr. Oct. 1932.

MISSISSIPPI AGRICULTURAL EXPERIMENT STATION, STATE COLLEGE

BULLETINS

289. Commercial fertilizers for cotton, 1925-1930. W. W. Hull and W. B. Andrews. Jan. 1931.
290. Making cotton cheaper, can present production costs be reduced? M. G. Vaiden, J. O. Smith, and W. E. Ayres. Feb. 1931. 298 is supplement.
291. Conservation of iron in vegetables by methods of preparation and cooking. Olive Sheets, Ernestine Frazier, and Dorothy Dickins. May 1931.
292. Food consumption of boys and girls in six typical agricultural high schools of Mississippi. Dorothy Dickins. June 1931.
293. Agricultural high school dormitories of Mississippi. Dorothy Dickins. Aug. 1931.
294. Clothing and houselinen expenditures of 99 rural families of Mississippi during 1928-29. Dorothy Dickins. Sept. 1931.
295. Farm power in the Yazoo-Mississippi Delta. L. E. Long. Nov. 1931.
296. Report of the Holly Springs branch experiment station, 1931. O. B. Casanova. Dec. 1931.
297. Report of the South Mississippi branch experiment station for 1931. J. C. Robert, W. S. Anderson, and W. W. Welborne. Dec. 1931.
298. Making cotton cheaper, can present production costs be reduced? M. G. Vaiden, J. O. Smith, and W. E. Ayres. June 1932. Supplement to 290.
299. Report of the Raymond branch experiment station, [1931]. H. F. Wallace. Dec. 1931.

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19. Control of basal-rot of narcissus. L. E. Miles. Feb. 1932.

MISSOURI AGRICULTURAL EXPERIMENT STATION, COLUMBIA

BULLETINS

296. Columbia oats, a new variety for Missouri. L. J. Stadler and R. T. Kirkpatrick. Feb. 1931.
297. Influence of yield on costs and income in agricultural production. B. H. Frame. Mar. 1931.
298. Registration, labeling, inspection, and sale of commercial fertilizers, 1930. F. B. Mumford and L. D. Haigh. Mar. 1931.
299. Cotton production in Missouri. B. M. King. Mar. 1931.
300. Progress in agricultural research (the report of the director for the year ending June 30, 1930). F. B. Mumford [and others]. Apr. 1931.
301. Spraying investigations. T. J. Talbert and H. G. Swartwout. Apr. 1931.
302. Factors affecting sweet potato prices in Missouri. F. L. Thomsen and W. R. Fankhanel. Apr. 1931.
303. Silo filling methods and costs. M. M. Jones and D. D. Smith. May 1931.
304. Electric hotbeds. R. R. Parks. May 1931.
305. Beekeeping in Missouri. Leonard Haseman. June 1931.
306. Inspection and analysis of commercial fertilizers; spring, 1931. F. B. Mumford, M. F. Miller, and L. D. Haigh. Aug. 1931.
307. Home orchard income. T. J. Talbert. Mar. 1932.
308. Registration, labeling, inspection, and sale of commercial fertilizer, 1931. F. B. Mumford and L. D. Haigh. Mar. 1932.
309. The value of dried skim milk for fattening poultry. E. M. Funk, H. L. Kempster, and C. G. Bryan. Apr. 1932.
310. Experiment station research: The report of the director for the year ending June 30, 1931. F. B. Mumford [and others]. Apr. 1932.
311. Operating practices of Missouri cooperative elevators. W. J. Hart, W. R. Fankhanel, and F. L. Thomsen. May 1932.
312. The durability of fence posts. J. C. Wooley. July 1932.
313. Some production costs with growing chicks. H. L. Kempster and E. M. Funk. July 1932.
314. Yearling heifers and steers for beef production. E. A. Trowbridge and H. C. Moffett. July 1932.
315. The farm tenant and his renting problem. O. R. Johnson. July 1932.
316. Horses grown on limited grain rations. E. A. Trowbridge and D. W. Chittenden. July 1932.
317. Livestock trucking in Missouri. F. L. Thomsen and W. R. Fankhanel. Sept. 1932.
318. Inspection and analysis of commercial fertilizers; spring, 1932. F. B. Mumford and L. D. Haigh. Oct. 1932.
319. Factors causing cull apples in Missouri. G. C. Schowengerdt and D. C. West. Nov. 1932.

RESEARCH BULLETINS

153. Taxonomy of the genus *Phytophthora* de Bary. C. M. Tucker. June 1931.
154. The Missouri farm real estate situation for 1927-1930. C. H. Hammar. July 1931.
155. The analysis of social data. H. J. Burt. July 1931.

156. The development of the mammary gland as indicated by the initiation and increase in the yield of secretion. C. W. Turner. Aug. 1931.
157. A study of the causes of the normal development of the mammary glands of the albino rat. C. W. Turner and A. B. Schultze. Aug. 1931.
158. The relation of the anterior pituitary hormones to the development and secretion of the mammary gland. C. W. Turner and W. U. Gardner. Aug. 1931.
159. A determination of the blood and plasma volume of dairy cattle, a study of blood and plasma volume during growth, pregnancy, and lactation. C. W. Turner and H. A. Herman. Aug. 1931.
160. The anatomy of the mammary gland of cattle, fetal development. C. W. Turner. Sept. 1931.
161. Rural community trends. H. J. Burt. Oct. 1931.
162. Behavior of potassium and sodium during the process of soil formation. Hans Jenny. Oct. 1931.
163. Cytological observations of deficiencies involving known genes, translocations and inversion in *Zea mays*. Barbara McClintock. Dec. 1931.
164. The influence of age at first calving on milk secretion. C. W. Turner. Feb. 1932.
165. Cost of marketing livestock by truck and rail. F. L. Thomsen and W. R. Fankhanel. Mar. 1932.
166. Growth and development, with special reference to domestic animals: XVII, Relation between resting energy metabolism and body weight in growing domestic mammals; XVIII, relation between basal metabolism, resting metabolism, heat increments of feeding and body weights in growing farm mammals. Samuel Brody, W. C. Hall, A. C. Ragsdale, and E. A. Trowbridge.— XIX, Relation between basal metabolism and body weight in the growing domestic fowl. Samuel Brody, E. M. Funk, and H. L. Kempster.— XX, Relation between basal metabolism and body weights in the growing rat. U. S. Ashworth, Samuel Brody, and A. G. Hogan.— XXI, Relation between basal metabolism and body weight in man, published data; XXII, relation between basal metabolism and body weight in laboratory animals, published data; XXIII, relation between basal metabolism and mature body weight in different species of mammals and birds. Samuel Brody and R. C. Procter. Apr. 1932.
167. The calcium requirement of brood sows. A. G. Hogan. May 1932.
168. Swine reproduction in relation to nutrition. A. G. Hogan. May 1932.
169. The accuracy and flexibility of rural real estate assessment in Missouri. C. H. Hammar. June 1932.
170. The oestrous cycle of the ewe; histology of the genital tract. L. E. Casida and F. F. McKenzie. June 1932.
171. Autumnal migration of nitrogen and carbohydrates in the apple tree, with special reference to leaves. A. E. Murneek and J. C. Logan. July 1932.
172. The Missouri farm real estate situation for 1930-1931. C. H. Hammar and R. P. Callaway. Aug. 1932.
173. The composition of soybean plants at various growth stages as related to their rate of decomposition and use as green manure. L. M. Turk. Sept. 1932.
174. The effect of the ovarian hormones theelin and corporin upon the growth of the mammary gland of the rabbit. C. W. Turner and A. H. Frank. Sept. 1932.
175. Apple pollination, an evaluation of methods and pollenizers. A. E. Murneek. Oct. 1932.
176. Growth and development, with special reference to domestic animals: XXIV, The decline in energy metabolism per unit weight with increasing age in farm animals, laboratory animals and humans, Samuel Brody [and others]. Sept. 1932.
177. The influence of systems of cropping and methods of culture on surface runoff and soil erosion. M. F. Miller and H. H. Krusekopf. Nov. 1932.
178. The effect of ultra-violet rays on the dermatitis preventing vitamin. A. G. Hogan and L. R. Richardson. Dec. 1932.
179. Growth and development, with special reference to domestic animals: XXV, The course of energy and nitrogen metabolism in the domestic fowl during 48-day fasts, with special reference to temperament and training of the birds. V. W. Phillips, U. S. Ashworth, and Samuel Brody.— Notes on 60-day fasts in swine. S. R. Johnson. Dec. 1932.

MONTANA AGRICULTURAL EXPERIMENT STATION, BOZEMAN

BULLETINS

240. Phosphate deficiency in the soils of Montana, a preliminary report. I. J. Nygard. Jan. 1931.
241. A study of apple tree growth as influenced by soil conditions in the Bitter Root Valley. Edmund Burke, H. E. Morris, and F. M. Harrington. Feb. 1931.
242. Relation of size of grade fine wool ewes to their production. W. E. Joseph. Mar. 1931.
243. Mechanical tests on tractor farming equipment, a progress report. H. E. Murdock. Apr. 1931.
244. Types of ranches and operating practices in relation to costs, investment, and income in the range beef cattle industry of Montana, preliminary report. M. H. Sanderson and D. E. Richards. Apr. 1931.
245. Irrigated alfalfa in Montana. J. E. Norton. May 1931.
246. Soils of Hill County, soil reconnaissance of Montana, preliminary report. L. F. Giesecker. May 1931.

247. Concentrates in rations for range ewes. W. E. Joseph. June 1931.
248. Hard seeds in legumes, interpretation of their value and methods of treatment. W. O. Whitcomb. July 1931.
249. Feeding low-priced wheat to lambs, a report of an economic study of livestock feeding in relation to low-priced wheat in Montana. M. H. Saunderson and Louis Vinke. July 1931.
250. Comparison of Hampshire and Rambouillet rams as sires of market lambs. W. E. Joseph. July 1931.
251. Alfalfa hay and small grains for fattening yearling steers. Louis Vinke and Paul Pearson. Sept. 1931.
252. Soils of Chouteau County, soil reconnaissance of Montana, preliminary report. L. F. Gieseke. Oct. 1931.
253. Arthritis in lambs (stiff lambs). Dec. 1931.
254. Foot-rot in sheep. Dec. 1931.
255. Seepage and drainage of irrigated land. H. E. Murdock. Jan. 1932.
256. Pollination of the McIntosh apple. F. M. Harrington and W. E. Pollinger. Feb. 1932.
257. The use of tankage and alfalfa when hogging down corn. Louis Vinke and George Morgan. Mar. 1932.
258. The economics of bean production and marketing in Montana. R. R. Renne. Mar. 1932.
259. A progress report on the phosphate deficiency of Montana soils. I. J. Nygard. Apr. 1932.
260. The quality of living in Montana farm homes, from accounts kept by forty families during the year 1929-30. J. E. Richardson. Apr. 1932.
261. Annual forage crops under irrigation. J. E. Norton. Apr. 1932.
262. Rural contributions to urban leadership in Montana. E. H. Lott. May 1932.
263. Potatoes in irrigated rotations. D. A. Savage. June 1932.
264. Organization, feeding methods and other practices affecting returns on irrigated dairy farms in western Montana. S. E. Johnson, J. O. Tretsven, Mordecai Ezekiel, and O. V. Wells. June 1932.
265. Organization of range cattle business in eastern Montana. R. S. Fletcher. June 1932.
266. Oat and barley varieties under irrigation. J. E. Norton and LeRoy Powers. Aug. 1932.
267. The correlation between the organisms found microscopically and the bacteriological deterioration of butter. J. A. Nelson. Sept. 1932.
268. The Rocky Mountain wood tick. R. A. Cooley. Nov. 1932.
269. Montana insect pests for 1931 and 1932, the twenty-fourth report of the state entomologist of Montana. A. L. Strand. Dec. 1932.

NEBRASKA AGRICULTURAL EXPERIMENT STATION, LINCOLN

BULLETINS

253. Variety tests of oats, barley, and spring wheat. T. A. Kiesselbach and W. E. Lyness. Mar. 1931.
254. Rural electric service in Nebraska, farm line extensions of 1929 compared with those of 1927. E. E. Brackett and E. B. Lewis. Mar. 1931.
255. Nebraska tractor tests, 1920-1930. Mar. 1931.
256. (North Platte experiment substation Bul. 30.) Corn, wheat, and rye for fattening lambs. M. L. Baker. Apr. 1931.
257. Wheat for fattening lambs. A. D. Weber and W. J. Loeffel. Apr. 1931.
258. The contribution of Nebraska farm women to family income through poultry and dairy products. M. R. Clark. May 1931.
259. Alfalfa molasses meal for fattening lambs. A. D. Weber and H. D. Fox. Aug. 1931.
260. The cause and prevention of mechanical injuries to potatoes. H. O. Werner. Aug. 1931.
261. Wheat for fattening hogs. W. J. Loeffel. Oct. 1931.
262. Length of feeding period and plane of nutrition as factors in lamb feeding. A. D. Weber, W. J. Loeffel, and Matilda Peters. Oct. 1931.
263. (North Platte experiment substation Bul. 31.) Corn, wheat, and rye for fattening calves. M. L. Baker. Oct. 1931.
264. Housing and house operation costs on Nebraska farms. J. O. Rankin. Nov. 1931.
265. Nebraska tractor tests, 1920-1931. Jan. 1932.
266. Cooling milk on Nebraska farms. P. A. Downs and E. B. Lewis. Jan. 1932.
267. A summary of the standard of living in Nebraska farm homes. J. O. Rankin and E. H. Hinman. Jan. 1932.
268. Lamb feeding experiments with grains and dried beet pulps. J. A. Holden. Mar. 1932.
269. Hatching turkey eggs. F. E. Mussehl. Apr. 1932.
270. A seven year study of a milk supply. P. A. Downs. Apr. 1932.
271. (North Platte experiment substation Bul. 32.) Pump irrigation and water table studies. H. E. Weakly. May 1932.
272. (North Platte experiment substation Bul. 33.) Cereal variety experiments at North Platte. N. E. Jodon. June 1932.
273. Seed preparation and planting methods for spring small grains. T. A. Kiesselbach and W. E. Lyness. July 1932.
274. The contract feeding of livestock. R. R. Thalman. July 1932.

275. Truck and rail transportation of Nebraska livestock to the Omaha market. B. S. Wendt and Harold Hedges. Oct. 1932.
276. Feeding tests and carcass studies with early spring lambs and aged western ewes. A. D. Weber and W. J. Loeffel. Dec. 1932.

RESEARCH BULLETINS

53. Infection experiments with spindle tuber and unmottled curly dwarf of the potato. R. W. Goss. Feb. 1931.
54. The vitamin A content of the milk of Holstein, Ayrshire, Jersey, and Guernsey cows. H. P. Davis and I. L. Hathaway. Feb. 1931.
55. Utilization of proteins by the growing chick. F. E. Mussehl and C. W. Ackerson. May 1931.
56. A study of washing machines. E. B. Snyder and M. P. Brunig. May 1931.
57. The effect of maturity and the ethylene chlorhydrin seed treatment on the dormancy of Triumph potatoes. H. O. Werner. Aug. 1931.
58. Studies of rickets in swine. W. J. Loeffel, R. R. Thalman, F. C. Olson, and F. A. Olson. Aug. 1931.
59. The influence of number of daily milkings on the production of dairy cows. R. F. Morgan and H. P. Davis. Sept. 1931.
60. Studies of prairie hay in north central Nebraska. F. D. Keim, A. L. Frolik, and G. W. Beadle. Mar. 1932.
61. Tuber development in Triumph potatoes as influenced by time of planting on dry land in north-western Nebraska. H. O. Werner. May 1932.
62. The vitamin A and the vitamin E content of field-cured and artificially cured alfalfa hay. I. L. Hathaway, H. P. Davis, and R. R. Graves. Oct. 1932.
63. The nature of resistance in alfalfa to wilt (*Aphanobacter insidiosus* L. Mc.). G. L. Peltier and F. R. Schroeder. Oct. 1932.
64. Factors affecting the performance of kerosene cook stoves. E. B. Snyder. Nov. 1932.
65. The identification of the more important prairie hay grasses of Nebraska by their vegetative characters. F. D. Keim, G. W. Beadle, and A. L. Frolik. Dec. 1932.

NEVADA AGRICULTURAL EXPERIMENT STATION, RENO

BULLETINS

121. The fitweed (*Capnoides caseana*) a poisonous range plant of the northern Sierra Nevada Mountains. C. E. Fleming, M. R. Miller, and L. R. Vawter. Apr. 1931.
122. Crooked breasts in turkeys. K. W. Niemann. Apr. 1931.
123. Production of crops and livestock on the Newlands Project, 1930. F. B. Headley and Cruz Venstrom. Sept. 1931. Supplementary to Bul. 120.
124. Cattle production costs in Nevada in the years 1928, 1929, and 1930. C. A. Brennen, C. E. Fleming, G. H. Smith, Jr., and M. R. Bruce. Oct. 1931.
125. Hog feeding experiments. F. B. Headley. Jan. 1932. Supplements Bul. 114.
126. Receipts and costs on Nevada range cattle ranches for the years 1928, 1929, and 1930. C. A. Brennen, C. E. Fleming, G. H. Smith, Jr., and M. R. Bruce. Mar. 1932.
127. Production of crops and livestock on the Newlands Project, 1931. Cruz Venstrom. Apr. 1932.
128. Factors affecting the cost of dairying in western Nevada. Cruz Venstrom and F. B. Headley. Oct. 1932.
129. Cost of producing hay on Nevada range cattle ranches. C. A. Brennen, C. E. Fleming, G. H. Smith, Jr., and M. R. Bruce. Oct. 1932.

NEW HAMPSHIRE AGRICULTURAL EXPERIMENT STATION, DURHAM

BULLETINS

255. Land survey of the town of Durham, New Hampshire. C. E. Walker. Mar. 1931.
256. Agricultural research in New Hampshire: Annual report of the director of the New Hampshire agricultural experiment station for year 1930. J. C. Kendall. Apr. 1931.
257. Studies in economics of apple orcharding: I, An apple enterprise study, costs and management. H. C. Woodworth and G. F. Potter. May 1931.
258. Results of seed tests for 1931, made for the State department of agriculture. B. G. Sanborn and L. J. Higgins. Aug. 1931.
259. Inspection of commercial feeding stuffs, 1931, made for the State department of agriculture. T. G. Phillips, T. O. Smith, and S. J. Fisher. Aug. 1931.
260. An economic study of dairy farming in Grafton County, New Hampshire, 1930. M. G. Eastman. Dec. 1931.
261. The energy and the protein content of edible food waste and mixed meals in sorority and fraternity houses. F. G. Benedict and A. G. Farr. Nov. 1931.
262. Agricultural research in New Hampshire: Annual report of the director of the New Hampshire agricultural experiment station for the year 1931. J. C. Kendall. Apr. 1932.

263. Inspection of commercial fertilizers for 1931, made for the State department of agriculture. T. O. Smith and S. J. Fisher. Dec. 1931.
264. Survey of land holdings in towns of Fremont and Boscawen, N. H. C. E. Walker and P. M. Hodgkins. May 1932.
265. Economic study of New Hampshire poultry farms. H. C. Woodworth and F. D. Reed. May 1932.
266. Electricity on New England farms: II, A report of the New Hampshire project on the relation of electricity to agriculture for the years 1925-1930. W. T. Ackerman. June 1932.
267. Results of seed tests for 1932, made for the State department of agriculture. B. G. Sanborn and L. J. Higgins. Aug. 1932.
268. Inspection of commercial feeding stuffs, 1932, made for the State department of agriculture. T. O. Smith and S. J. Fisher. Aug. 1932.
269. Inspection of commercial fertilizers for 1932, made for the State department of agriculture. T. O. Smith and H. A. Davis. Dec. 1932.

TECHNICAL BULLETINS

45. The heat production of sheep under varying conditions. E. G. Ritzman and F. G. Benedict. Apr. 1931.
46. Studies in contact insecticides: III, A numerical rating for the contact performance of a spray material. W. C. O'Kane, W. A. Westgate, L. C. Glover, and P. R. Lowry. May 1931.
47. Some results of inbreeding on fecundity and on growth in sheep. E. G. Ritzman and C. B. Davenport. June 1931.
48. Studies of contact insecticides: IV, Sodium soaps of the normal saturated fatty acids, contact performance on paraffin and on the larva of the meal worm, *Tenebrio molitor*, Linn. W. C. O'Kane and W. A. Westgate. Mar. 1932.
49. Amount and variability of spray residue on New Hampshire Baldwins. G. P. Percival and G. F. Potter. Apr. 1932.
50. Nitrogen and carbohydrate metabolism of young apple trees as affected by excessive applications of sodium nitrate. N. W. Stuart. June 1932.
51. Studies of contact insecticides: V, The performance of certain contact agents on various insects. W. C. O'Kane, W. A. Westgate, and L. C. Glover. June 1932.
52. An automatic method for collecting solid and liquid excreta from cows in digestion experiments. E. G. Ritzman and N. F. Colovos. June 1932.

NEW JERSEY AGRICULTURAL EXPERIMENT STATION, NEW BRUNSWICK

BULLETINS

516. Results of seed and legume inoculant inspection for 1930. J. G. Fiske. Jan. 1931.
517. Analyses of commercial fertilizers and ground bone; analyses of agricultural lime, 1930. C. S. Cathcart. Jan. 1931.
518. Fertilizer registrations for 1931. C. S. Cathcart. Feb. 1931.
519. Investigations relative to the use of nitrogenous plant-foods, 1913-1927. J. G. Lipman, A. W. Blair, and A. L. Prince. Mar. 1931.
520. The swallows, goatsuckers, and swifts of New Jersey. L. A. Hausman. Mar. 1931.
521. Annual report of the Department of sewage disposal, July 1, 1929-June 30, 1930. Willem Rudolfs [and others]. Apr. 1931.
522. Annual report of the Department of biology, July 1, 1929-June 30, 1930. T. C. Nelson and E. B. Perkins. June 1931.
523. Trapping the oyster drill. J. R. Nelson. Mar. 1931.
524. Analyses of commercial feeding stuffs and registrations for 1931. C. S. Cathcart. June 1931.
525. Development and ripening of peaches as correlated with physical characteristics, chemical composition, and histological structure of the fruit flesh: I, Physical measurements of growth and flesh texture in relation to the market and edible qualities of the fruit. M. A. Blake, O. W. Davidson, R. M. Addoms, and G. T. Nightingale. Sept. 1931.
526. The use of ammonia and nitrate nitrogen by certain crop plants. V. A. Tiedjens and W. R. Robbins. Sept. 1931.
527. A practical poultry breeding improvement program. W. C. Thompson. July 1931.
528. The significance of measurements of quantity and quality of egg yield. W. C. Thompson, Denis Philpott, and H. C. Page. July 1931.
529. Annual report of the Department of water supplies and sewage disposal, July 1, 1930-June 30, 1931. Willem Rudolfs [and others]. Apr. 1932.
530. Analyses of materials sold as insecticides and fungicides during 1931. C. S. Cathcart and R. L. Willis. Oct. 1931.
531. The sylvids and flycatchers of New Jersey. L. A. Hausman. Dec. 1931.
532. Farm taxation in New Jersey. A. G. Waller and H. B. Weiss. Nov. 1931.
533. Analyses of commercial fertilizers, fertilizer supplies, and home mixtures for 1931. C. S. Cathcart. Nov. 1931.

534. Farm profits and factors influencing farm profits on 176 dairy farms in Hunterdon County. A. G. Waller and Emil Rauchenstein. Jan. 1932.
535. Results of seed and legume inoculant inspection for 1931. J. G. Fiske. Jan. 1932.
536. Analyses of commercial fertilizers and ground bone; analyses of agricultural lime, 1931. C. S. Cathcart. Jan. 1932.
537. Corn varieties for grain, fodder, and silage. H. B. Sprague, N. F. Farris, W. G. Colby, and Norman Curtis. Feb. 1932.
538. Fertilizer registrations for 1932. C. S. Cathcart. Feb. 1932.
539. Manual for milk testers in New Jersey. H. H. Tucker. Mar. 1932.
540. Annual hay crops. H. B. Sprague, N. F. Farris, N. J. Curtis, and W. G. Colby. Mar. 1932.
541. Fertilizer materials and mixed fertilizers. A. W. Blair. May 1932.
542. Farm profits and factors influencing farm profits on 98 dairy farms in Sussex County. A. G. Waller and Emil Rauchenstein. May 1932.
543. Feather development in Barred Plymouth Rock chicks. A. M. M. Gericke and C. S. Platt. June 1932.
544. The vireos, cuckoos, and shrikes of New Jersey. L. A. Hausman. June 1932.
545. A comparison of the pollution and natural purification of the Connecticut and Delaware Rivers and the Brandywine Creek. L. R. Setter. June 1932.
546. Analyses of commercial feeding stuffs and registrations for 1932. C. S. Cathcart. June 1932.
547. Factors affecting the use of nitrate and ammonium nitrogen by apple trees. V. A. Tiedjens and M. A. Blake. Nov. 1932.
548. Analyses of materials sold as insecticides and fungicides during 1932. C. S. Cathcart and R. L. Willis. Oct. 1932.
549. Analyses of commercial fertilizers, fertilizer supplies, and home mixtures for 1932. C. S. Cathcart. Nov. 1932.

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188. Economics of agriculture on dry-land farms in eastern New Mexico: Part III, Selecting the most profitable system of dry-land farming in eastern New Mexico. L. H. Hauter, A. L. Walker, and O. V. Wells. Jan. 1931.
189. The artificial reseedling of New Mexico ranges. C. P. Wilson. Feb. 1931.
190. The preservation of manure under arid climatic conditions. H. N. Watenpugh. Feb. 1931.
191. Dry-farming investigations in northeastern New Mexico. John Carter, Jr. Mar. 1931.
192. Grape culture. A. B. Fite and A. S. Curry. Mar. 1931.
193. Early Grano onion culture. Fabian Garcia and A. B. Fite. Apr. 1931.
194. (Technical.) The digestibility of cottonseed meal as a supplemental feed for range cattle in New Mexico: II, with low protein intake. W. E. Watkins. May 1931.
195. New Mexico egg storage studies, Part II. A. L. Walker, L. N. Berry, and E. E. Anderson. May 1931.
196. A two-year analysis of farm organization practices in the Middle Rio Grande Conservancy District, preliminary report. P. W. Cockerill and A. L. Walker. Dec. 1931.
197. The influence of irrigation head and length of run on the use of water for alfalfa. D. W. Bloodgood and A. S. Curry. Dec. 1931.
198. Cherry variety test. A. B. Fite and Fabian Garcia. Jan. 1932.
199. The control of the bean beetle in New Mexico. J. R. Douglass. Feb. 1932.
200. The use of cottonseed meal, cottonseed hulls, and molasses in fattening rations for New Mexico range lambs. P. E. Neale. Feb. 1932.
201. Cotton investigations. J. C. Overpeck and W. T. Conway. Mar. 1932.
202. The comparative values of cottonseed cake and ground yellow corn for the supplemental feeding of cows and weaned calves on the range. J. L. Lantow. Mar. 1932.
203. The efficiency of alfalfa leaf meal and alfalfa meal as substitutes for green feed in rations for laying hens. L. N. Berry. May 1932.
204. Economics of sheep production in western New Mexico. A. L. Walker, J. L. Lantow, and K. P. Pickrell. May 1932.
205. The effect of the frequency of irrigation on potatoes grown in Mimbres Valley, New Mexico. D. W. Bloodgood. June 1932.
206. (Technical.) Utilization of calcium and phosphorus by dairy heifers; high and low calcium roughages. O. C. Cunningham, L. H. Addington, and W. E. Watkins. July 1932.

NEW YORK (CORNELL) AGRICULTURAL EXPERIMENT STATION, ITHACA

BULLETINS

515. Some shade-tree pests and their control. G. W. Herrick. Jan. 1931.
516. Dry skim milk in ice cream. W. V. Price and Randall Whitaker. Mar. 1931.
517. Celery production on the muck soils of New York. J. E. Knott. Mar. 1931.
518. A statistical study of milk production for the New York market. M. P. Catherwood. Apr. 1931.
519. Studies of the genus *Delphinium*. E. I. Wilde. Apr. 1931.
520. Fertilizer tests of several soil types. T. L. Lyon. Apr. 1931.
521. Cultivation experiments with certain vegetable crops on Long Island. H. C. Thompson, P. H. Wessels, and H. S. Mills. Apr. 1931.
522. The family finances of 195 farm families in Tompkins County, New York, 1927-28. Helen Canon. May 1931.
523. The sociology of a village and the surrounding territory. B. L. Melvin. May 1931.
524. The communities of Schuylar County, New York, 1927. R. E. Wakeley. June 1931.
525. A survey of some public produce markets in up-state New York. F. P. Weaver. June 1931.
526. Potato storage on 259 farms in New York. A. L. Wilson and E. V. Hardenburg. Aug. 1931.
527. The supply side of the New York milk market. H. A. Ross. Sept. 1931.
528. Fermentation and crystallization of honey. E. J. Dyce. Oct. 1931.
529. The social and economic areas of Yates County, New York. H. F. Dorn. Oct. 1931.
530. A study of phosphatic limestone as a mineral supplement. Chester Tolle and L. A. Maynard. Oct. 1931.
531. Relative effectiveness of limestone particles of different sizes. T. L. Lyon. Dec. 1931.
532. Production and marketing of field beans in New York. H. N. Young. Dec. 1931.
533. A statistical analysis of the results of breeding high-line and low-line Leghorns. D. R. Marble and G. O. Hall. Dec. 1931.
534. Relation of daily prices to the marketing of hogs at Chicago. H. J. Stover. Jan. 1932.
535. The control of bottom rot of lettuce. G. R. Townsend and A. G. Newhall. Jan. 1932.
536. Soil-acidity studies with potatoes, cauliflower, and other vegetables on Long Island. P. H. Wessels. Jan. 1932.
537. The chemical composition of the muck soils of New York. B. D. Wilson and E. V. Staker. Jan. 1932.
538. Soil and field-crop management of Cayuga County, New York. A. F. Gustafson.— Pastures, their improvement and management. D. B. Johnstone-Wallace. Jan. 1932.
539. An economic study of agriculture in northern Livingston County, New York. S. W. Warren. May 1932.
540. The effect of different planes of protein intake upon milk production. E. S. Harrison and E. S. Savage. May 1932.
541. Soils in relation to fruit growing in New York: Part I, A detailed soil survey of the Hilton area, Monroe County. A. T. Sweet and Joseph Oskamp. July 1932.
542. Killing perennial weeds with chlorates during winter. W. C. Muenscher. Sept. 1932.
543. The influence of different levels of fat intake upon milk secretion. L. A. Maynard and C. M. McCay. Sept. 1932.
544. Cooperative purchasing and marketing organizations in New York State. F. A. Harper. Oct. 1932.
545. Retail prices of fertilizer materials and mixed fertilizers. E. E. Vial. Nov. 1932.
546. The marketing of milk thru ice cream. M. C. Bond. Dec. 1932.
547. Population trends in New York State, 1900 to 1930. W. A. Anderson. Dec. 1932.
548. Corn and soybeans for silage. R. G. Wiggans. Dec. 1932.
549. An analysis of the loaning operations of the Federal land bank of Springfield from its organization in March 1917 to May 31, 1929. F. F. Hill. Dec. 1932.
550. Soils in relation to fruit growing in New York: Part II, Size, production, and rooting habit of apple trees on different soil types in the Hilton and Morton areas, Monroe County. Joseph Oskamp and L. P. Batjer. Dec. 1932.

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135. A gene in maize for supernumerary cell divisions following meiosis. G. W. Beadle. Mar. 1931.
136. Studies on the fire-blight organism, *Bacillus amylovorus*. A. L. Pierstorff. July 1931.
137. Some nitrogen relationships in muck soils. B. D. Wilson and G. R. Townsend. Aug. 1931.
138. The effect of pruning apple trees at planting time. Joseph Oskamp. Dec. 1931.
139. An analysis of the characters of the inflorescence and the fruiting habit of some varieties of greenhouse tomatoes. A. G. B. Bouquet. Apr. 1932.
140. Carbohydrate and nitrogen metabolism in the celery plant as related to premature seeding. Hans Platenius. Apr. 1932.
141. Multiple correlation analysis as applied to farm-management research. S. W. Warren. May 1932.
142. Wholesale prices for 213 years, 1720 to 1932: Part I, Wholesale prices in the United States for 135 years, 1797 to 1932. G. F. Warren and F. A. Pearson.— Part II, Wholesale prices at New York City, 1720 to 1860. H. M. Stoker. Nov. 1932.

143. Studies on the downy mildew of onions, and the causal organism, *Peronospora destructor* (Berk.) Caspary. H. T. Cook. Dec. 1932.
144. The physical volume of production in the United States. G. F. Warren and F. A. Pearson. Nov. 1932.
145. Relation of hydrogen-ion concentration to the growth of onions. A. L. Wilson. Dec. 1932.

NEW YORK STATE AGRICULTURAL EXPERIMENT STATION, GENEVA

BULLETINS

590. Cucumber disease investigations on Long Island. E. E. Clayton. Jan. 1931.
591. How the cream layer forms on milk. A. C. Dahlberg and J. C. Marquardt. Feb. 1931.
592. Spraying and dusting experiments with potatoes on Long Island. H. C. Hockett. Feb. 1931.
593. The creaming of raw milk. A. C. Dahlberg and J. C. Marquardt. Mar. 1931.
594. Composition and cost of commercial fertilizers in New York from 1913 to 1930. A. W. Clark, W. F. Walsh, and F. J. Kokoski. Mar. 1931.
595. Sauerkraut. C. S. Pederson. July 1931.
596. Some effects of legumes in relation to economical crop production. R. C. Collison. Aug. 1931.
597. Vegetable seed treatment. E. E. Clayton. Sept. 1931.
598. The propagation of multiflora rootstocks for roses by softwood cuttings. H. B. Tukey and K. D. Brase. Oct. 1931.
599. The response of apples, cherries, and roses to fertilizer applications in the nursery. H. B. Tukey and K. D. Brase. Nov. 1931.
600. Control of hibernating caterpillars of the eye-spotted budmoth in apple orchards. S. W. Harman. Nov. 1931.
601. Virus disease control experiments in black raspberry plantings in 1931. L. M. Cooley and W. H. Rankin. Dec. 1931.
602. Legume inoculant tests in 1931. A. W. Hofer and H. J. Conn. Dec. 1931.
603. The European corn borer in western New York. G. E. R. Hervey. Feb. 1932.
604. Recent investigations on the control of apple scab in the Hudson Valley. J. M. Hamilton. Feb. 1932.
605. Sampling milk for fat test at milk plants. J. C. Marquardt and H. L. Durham. Feb. 1932.
606. Apple insects in the Hudson Valley and the Lake Champlain fruit districts. P. J. Chapman and O. H. Hammer. Feb. 1932.
607. Grafting American grapes on vigorous stocks. F. E. Gladwin. Feb. 1932.
608. The quality of vegetable seeds on sale in New York in 1931. M. T. Munn, O. H. Sipple, and M. E. Woodbridge. Mar. 1932.
609. Summer treatments for the control of the eye-spotted budmoth. S. W. Harman. Mar. 1932.
610. Dust treatments of cut potato seed. E. E. Clayton. Mar. 1932.
611. Spray and other deposits on fruit. L. R. Streeter, P. J. Chapman, S. W. Harman, and G. W. Pearce. Apr. 1932.
612. Sterilization of dairy farm utensils with dry heat. A. C. Dahlberg and J. C. Marquardt. June 1932.
613. The quality of commercial sauerkraut. C. S. Pederson and C. D. Kelly. Sept. 1932.
614. The relation between temperature and the rate of fermentation of commercial sauerkraut. C. S. Pederson. Sept. 1932.
615. Red oxide of copper as a dust fungicide for combating damping-off by seed treatment. J. G. Horsfall. Nov. 1932.
616. Weed seeds found in vegetable seeds. O. M. Hoeffle. Nov. 1932.
617. Experiments in cherry pollination. Olav Einset. Dec. 1932.

TECHNICAL BULLETINS

174. The utilization of dry skim milk in the manufacture of ice cream and cream cheese. J. C. Marquardt. Mar. 1931.
175. Virus diseases of black raspberries. W. H. Rankin. Mar. 1931.
176. Factors affecting the quality of commercial canning peas. C. B. Sayre, J. J. Willaman, and Z. I. Kertesz. Mar. 1931.
177. China aster seed treatment and storage. W. O. Gloyer. June 1931.
178. The enzymic clarification of grape juice. J. J. Willaman and Z. I. Kertesz. June 1931.
179. Factors influencing the pectin content of stored apple pomace. Z. I. Kertesz and E. L. Green. June 1931.
180. The creaming of milk pasteurized at high temperatures. J. C. Marquardt and A. C. Dahlberg. July 1931.
181. Studies on the chemistry of grape juice. E. L. Green and Z. I. Kertesz. July 1931.
182. Variation in the lima bean, *Phaseolus lunatus* L., as illustrated by its synonymy. G. P. Van Eseltine. July 1931.
183. Vegetable seed treatment with special reference to the use of hot water and organic mercurials. E. E. Clayton. Aug. 1931.

184. The rate of chemical change in milk brought about by certain lactic acid streptococci. C. D. Kelly. Oct. 1931.
185. Correlation studies of the growth of apple and cherry trees in the nursery from the seedling to the two-year budded tree. H. B. Tukey and K. D. Brase. Oct. 1931.
186. Chromosome number in the genus *Cucurbita*. M. L. Ruttle (Mrs. Nebel). Dec. 1931.
187. *Macrocentrus ancylivorus* Rohwer, a polyembryonic braconid parasite of the oriental fruit moth. D. M. Daniel. Jan. 1932.
188. *Ascogaster carpocapsae* Viereck, an important larval parasite of the codling moth and oriental fruit moth. J. A. Cox. Jan. 1932.
189. Pasteurizing and cooling milk in the vat to secure maximum creaming. J. C. Marquardt and A. C. Dahlberg. Feb. 1932.
190. Studies on the Coccaceae: XVII, Agglutination as a means of differentiating the species of *Streptococcus* and *Leuconostoc*. G. J. Hucker. Mar. 1932.
191. Thermophilic bacteria in milk pasteurized by the holder process. R. S. Breed. Mar. 1932.
192. Direct tree injection in the study of tree nutrition problems. R. C. Collison, J. D. Harlan, and M. P. Sweeney. Mar. 1932.
193. Lysimeter investigations: II, Composition of rainwater at Geneva, N.Y., for a 10-year period. R. C. Collison and J. E. Mensching. Mar. 1932.
194. Some relationships between soil properties and performance of Baldwin and Greening apple trees. R. C. Collison, S. E. Collison, and J. D. Harlan. Mar. 1932.
195. Percentage of hardshell in pea and bean varieties. W. O. Gloyer. Apr. 1932.
196. The public health significance of the growth of thermophilic bacteria in pasteurized milk. P. A. Hansen. Apr. 1932.
197. A temperature treatment for increasing the viscosity of sweet cream. J. C. Hening and A. C. Dahlberg. July 1932.
198. Dusting tomato seed with copper sulfate monohydrate for combating damping-off. J. G. Horsfall. July 1932.
199. Mastitis: I, The incidence and detection of sub-clinical streptococcus mastitis. G. J. Hucker, Ferdinand Trudell, and W. S. Jennings. Aug. 1932.
200. The influence of certain lactic acid streptococci on the chemical changes in cheddar cheese during ripening. C. D. Kelly. Sept. 1932.
201. Lactic acid streptococci associated with the early stages of cheddar cheese ripening. C. D. Kelly. Sept. 1932.
202. The commercial processing of apple juice. D. C. Carpenter and W. F. Walsh. Sept. 1932.
203. The margin of safety between the thermal death point of the tubercle bacillus and the thermal cream layer volume impairment in pasteurizing milk at various temperatures. A. C. Dahlberg. Sept. 1932.
204. A microscopic study of certain changes in the microflora of soil. H. J. Conn. Sept. 1932.
205. Mastitis: II, The use of certain dyes in the treatment of mastitis. G. J. Hucker and D. A. Lee. Nov. 1932.

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The vegetables of New York: V. 1, Part II, Beans of New York. U. P. Hedrick, W. T. Tapley, G. P. Van Eeltine, and W. D. Enzie. 1931. (Published as part of the New York State agricultural experiment station report for the year ending June 30, 1931.)

NORTH CAROLINA AGRICULTURAL EXPERIMENT STATION, STATE COLLEGE STATION, RALEIGH

BULLETINS

277. Planning the farm business, with especial reference to the northern third of the Coastal Plain area. G. W. Forster. June 1931.
278. The farm business accounts, farm inventories. G. W. Forster. Aug. 1931.
279. Approved practices for Irish potato growers. B. F. Fulton, H. B. Mann, R. F. Poole, and Robert Schmidt. Jan. 1932.

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40. Short interval testing as a control of pullorum disease. R. S. Dearstyne, R. E. Greaves, and H. C. Gauger. Apr. 1931.
41. The value of peanuts for growing pigs. J. O. Halverson, E. H. Hostetler, and F. W. Sherwood. Sept. 1931.
42. Source and care of cotton planting seed in relation to the length of staple. J. H. Moore and J. A. Shanklin. Aug. 1931.

NORTH DAKOTA AGRICULTURAL EXPERIMENT STATION, STATE COLLEGE STATION,
FARGO

BULLETINS

246. (Technical.) The chemical composition of some chernozem-like soils of North Dakota. T. H. Hopper, L. L. Nesbitt, and A. J. Pinckney. Feb. 1931.
247. Impurities of North Dakota *Bromus inermis* seed. O. A. Stevens. Feb. 1931.
248. Williston substation report, April 1, 1930, to March 31, 1931. E. G. Schollander. May 1931.
249. Potatoes for dairy cows. J. R. Dice. June 1931.
250. (Technical.) Studies on sweet clover disease. L. M. Roderick and A. F. Schalk. July 1931.
251. Rural community clubs in North Dakota, factors influencing their success or failure. E. A. Willson. Aug. 1931.
252. Wool marketing. A. H. Benton. Nov. 1931.
253. Flax production in Argentina. H. L. Bolley.— Chemical analyses of Argentine flaxseed. T. H. Hopper. Dec. 1931.
254. Classes and grades of cattle and calves marketed from North Dakota, 1929. H. G. Anderson and A. H. Benton. Feb. 1932.
255. Diseases of grain and forage crops in North Dakota. Wanda Weniger. Jan. 1932. Revision of 166.
256. Experiment station progress, report for the biennium July 1, 1929, to June 30, 1931. P. F. Trowbridge. Feb. 1932.
257. Corn in its northern home. P. J. Olson and H. L. Walster. May 1932.
258. Buttercup squash, its origin and use. A. F. Yeager and Esther Latzke. June 1932.
259. (Technical.) Fungus of flaxseed and of flax-sick soil. H. L. Bolley and T. F. Manns. June 1932.
260. (Technical.) Effect of weathering and stage of maturity on the palatability and nutritive value of prairie hay. F. W. Christensen and T. H. Hopper. July 1932.
261. (Technical.) Pregnancy disease of sheep. L. M. Roderick and G. S. Harshfield. Oct. 1932.

OHIO AGRICULTURAL EXPERIMENT STATION, WOOSTER

BULLETINS

470. Forty-ninth annual report of the Ohio agricultural experiment station for the year ended June 30, 1930. C. G. Williams [and others]. Jan. 1931.
471. Lodging in oats and wheat. F. A. Welton and V. H. Morris. Feb. 1931.
472. Bloom period and yield of apples, a 20-year average, 1910-1929. C. W. Ellenwood. Feb. 1931.
473. The sources of American corn insects. C. R. Neiswander. Mar. 1931.
474. A study of certain cash expenditures of Ohio farm families. Grace Brinton. Apr. 1931.
475. Manual of Ohio weeds. H. A. Runnels and J. H. Schaffner. Apr. 1931.
476. All-night light for layers. D. C. Kennard and V. D. Chamberlin. May 1931.
477. Studies on the nutritive value of milk: I, The deficiencies of an exclusive milk diet and how to overcome them. W. E. Krauss. May 1931.
478. Lumber production in Ohio. R. R. Paton.— Damage to lumber caused by insects. J. S. Houser. June 1931.
479. Nitrate fertilization and keeping quality of apple fruits, chemical, physiological, and storage studies. J. H. Gourley and E. F. Hopkins. June 1931.
480. Breeding experiments with sheep and swine. B. L. Warwick. July 1931.
481. Some factors causing variations in crop production costs in Putnam County. J. F. Dowler. July 1931.
482. Seasonal variation in the rate of growth of pre-school children. Hughina McKay and M. A. Brown. July 1931.
483. Factors affecting fruit setting: I, Stayman Winesap. F. S. Howlett. Aug. 1931.
484. Studies on the reaction of greenhouse soils to the growth of plants. W. W. Wiggin and J. H. Gourley. Aug. 1931.
485. Land utilization in a southeastern Ohio county. J. H. Sitterley, H. R. Moore, and J. I. Falconer. Aug. 1931.
486. The garden symphyliid, *Scutigerella immaculata* Newport. G. A. Filing. Sept. 1931.
487. The propagation of flowers by cuttings and seeds. W. W. Wiggin. Sept. 1931.
488. Improving corn and tankage for pigs not on pasture. W. L. Robison. Sept. 1931.
489. Movement of open country population in Ohio. P. G. Beck and C. E. Lively. Sept. 1931.
490. Feed grinder investigations. E. A. Silver. Oct. 1931.
491. The combined harvester-thresher in Ohio. E. A. Silver and J. H. Sitterley. Oct. 1931.
492. Foods used by rural families in Ohio during a three-year period. Hughina McKay and M. A. Brown. Oct. 1931.
493. Celery fertilizer experiments in Ohio. Donald Comin. Nov. 1931.
494. Life history and composition of the soybean plant. H. L. Borst and L. E. Thatcher. Nov. 1931.
495. Variations in livestock production costs and returns in Putnam County. J. F. Dowler. Dec. 1931.
496. The causes and control of damping-off of tomato seedlings. L. J. Alexander, H. C. Young, and C. M. Kiger. Dec. 1931.

497. Fiftieth annual report of the Ohio agricultural experiment station for the year ended June 30, 1931. C. G. Williams [and others]. Jan. 1932.
498. A market analysis of farm sales of milk to dealers in four Ohio cities. R. W. Sherman and C. G. McBride. Feb. 1932.
499. Growing of greenhouse tomatoes. I. C. Hoffman. Feb. 1932.
500. Spraying program and pest control in the orchard. Feb. 1932.
501. Fifty-year index to personnel and publications of the Ohio agricultural experiment station. C. E. Thorne. Apr. 1932.
502. Preparation of feeds for dairy cows. C. C. Hayden, C. F. Monroe, and A. E. Perkins. May 1932.
503. Ohio agricultural statistics for 1929-1930-1931. A. R. Tuttle, R. E. Straszhheim, and P. P. Wallrabenstein. July 1932.
504. Marketing cannery tomatoes on grade in Ohio. C. W. Hauck. Aug. 1932.
505. Factors influencing the dressing percentage of hogs. G. F. Henning and W. B. Stout. Aug. 1932.
506. The influence of laundering and exposure to light upon some wash silks used for outer garments. M. E. Griffith. Aug. 1932.
507. The trend of wheat production in Ohio. C. A. Lamb. Aug. 1932.
508. Apple thinning, with special reference to Grimes Golden and Jonathan. C. W. Ellenwood and F. S. Howlett. Sept. 1932.
509. The farm mortgage situation in Putnam, Union, and Greene Counties, Ohio. V. R. Wertz. Sept. 1932.
510. Grafting and budding fruit trees. I. P. Lewis. Sept. 1932.
511. Diseases of ornamental plants. P. E. Tilford. Oct. 1932.
512. Photoperiodism, the value of supplementary illumination and reduction of light on flowering plants in the greenhouse. Alex Laurie and G. H. Poesch. Oct. 1932.
513. Experiments with growing corn and soybeans in combination. H. L. Borst and J. B. Park. Oct. 1932.
514. Land utilization in Lawrence County, Ohio. J. H. Sitterley, H. R. Moore, and J. I. Falconer. Nov. 1932.
515. The chemical composition and nutritive properties of milk as affected by the level of protein feeding: Part I, Chemical composition. A. E. Perkins.— Part II, Nutritive properties. W. E. Krauss and C. C. Hayden. Dec. 1932.

TECHNICAL BULLETINS

9. Environmental factors in relation to plant disease and injury, a bibliography. J. D. Wilson. July 1932.
10. A phenol coefficient study involving bacterial plant pathogens. R. C. Thomas. Oct. 1932.

OKLAHOMA AGRICULTURAL EXPERIMENT STATION, STILLWATER

BULLETINS

- 181.² Types-of-farming in Oklahoma. J. O. Ellsworth and F. F. Elliott. June 1929.
199. Systems of farming in Oklahoma: No. 1, Wheat farming in north central Oklahoma. P. H. Stephens and Emil Rauchenstein. Apr. 1931.
200. Wheat varieties on the high plains of Oklahoma. H. H. Fennell. May 1931.
201. A study of methods for the preparation of permanent soil profiles. H. J. Harper. Jan. 1932.
202. Growing turkeys in confinement. R. B. Thompson, E. E. Schnetzler, and W. P. Albright. Mar. 1932.
203. Factors affecting the accumulation of nitrate nitrogen in high plains soils. H. H. Fennell. May 1932.
204. Preliminary experiments in the transmission of anaplasmosis by horseflies. C. E. Sanborn, G. W. Stiles, Jr., and L. H. Moe. May 1932.
205. Easily soluble phosphorus in Oklahoma soils. H. J. Harper. Sept. 1932.
206. Soil fertility and sweet clover production in Oklahoma. H. J. Harper. Sept. 1932.
207. Rural electrification in Oklahoma, a study of consumption and costs. E. R. Miller. Dec. 1932.

OREGON AGRICULTURAL EXPERIMENT STATION, CORVALLIS

BULLETINS

274. An economic study of the small-fruit industry in Oregon. G. L. Sulerud and M. N. Nelson. Jan. 1931.
275. Bleaching and dyeing Royal Ann cherries for maraschino or fruit salad use. D. E. Bullis and E. H. Wiegand. May 1931.
276. Fattening calves and yearlings. E. L. Potter, Robert Withycombe, and F. M. Edwards. May 1931.
277. Preliminary report on effect of irrigation on major berry crops in the Willamette Valley. C. E. Schuster, R. S. Besse, G. L. Rygg, and W. L. Powers. May 1931.
278. The "frozen-pack" method of preserving berries. E. H. Wiegand. May 1931.

² Received too late for inclusion in previous list.

279. A method for studying water conduction in plants in relation to pruning, grafting, and other horticultural practices. E. M. Harvey. May 1931.
280. A preliminary report on Anjou scald and its control. Henry Hartman. June 1931.
281. Varietal resistance, physiologic specialization, and inheritance studies in bunt of wheat. E. N. Bressman. June 1931.
282. A peculiar freezing trouble of pears in cold storage. Henry Hartman. June 1931.
283. Baking of pears, standardization of household practice as applied to the baking of Bosc, D'Anjou, and Comice pears. Agnes Kolshorn. June 1931.
284. A preliminary report on the vegetative growth of okra (*Hibiscus esculentus* Linn.) in relation to the production of varying amounts of reproductive tissue. E. M. Harvey. June 1931.
285. Oats production in western Oregon. D. D. Hill. June 1931.
286. Austrian winter field peas in Oregon. H. A. Schoth. June 1931.
287. Cost and efficiency in commercial egg production in Oregon. H. D. Scudder, A. S. Burrier, A. G. Lunn, and F. L. Knowlton. June 1931.
288. An economic study of the hop industry in Oregon. G. L. Sulerud. June 1931.
289. The Angora goat industry of Oregon. O. M. Nelson. June 1931.
290. Raising calves on dry calf meals. I. R. Jones, P. M. Brandt, and F. D. Wilson. June 1931.
291. Factors for consideration in standardization of Oregon dried prunes. E. H. Wiegand and D. E. Bullis. June 1931.
292. Cost and efficiency in prune production in western Oregon. H. D. Scudder. June 1932.
293. The farm home. F. A. Cuthbert. Mar. 1932.
294. Potato virus diseases, Oregon investigations, 1924-1929. M. B. McKay and T. P. Dykstra. Jan. 1932.
295. A strawberry disease caused by Rhizoctonia. S. M. Zeller. Mar. 1932.
296. The strawberry crown moth. Joseph Wilcox, K. W. Gray, and D. C. Mote. May 1932.
297. Types of hogs marketed and consumer demand in Oregon. H. A. Lindgren, A. W. Oliver, and E. L. Potter. May 1932.
298. Arsenical spray residue on cherries. R. H. Robinson. May 1932.
299. Soils of Chehalis series and their utilization. W. L. Powers and C. V. Ruzek. May 1932.
300. Electrical resistance of pear tissue as an index of maturity. J. C. Moore. June 1932.
301. Design of equipment and method for preparing starter for Oregon creameries and cheese factories. F. E. Price, G. H. Wilster, and C. J. Hurd. June 1932.
302. Twenty-five years of supplemental irrigation investigations in Willamette Valley. W. L. Powers. June 1932.
303. The "Red Hill" soils of western Oregon and their utilization. C. V. Ruzek and W. L. Powers. June 1932.
304. Diseases of narcissus. F. P. McWhorter and Freeman Weiss. June 1932.
305. Cream refrigeration on the farm and the quality of butter manufactured. F. E. Price, C. J. Hurd, and G. H. Wilster. June 1932.
306. Incidence of public school taxation in Oregon with special reference to elementary and county school fund laws. W. H. Dreesen. June 1932.
307. Electric hotbeds and propagating beds. F. E. Price and C. J. Hurd. June 1932.
308. Wheat varieties for the Columbia River Basin of Oregon. D. E. Stephens, R. B. Webb, and J. F. Martin. Dec. 1932.

PENNSYLVANIA AGRICULTURAL EXPERIMENT STATION, STATE COLLEGE

BULLETINS

261. Soil organic matter as a factor in the fertility of apple orchards. R. D. Anthony. Jan. 1931.
262. The feed purchasing power of eggs. E. M. Funk. Feb. 1931.
263. The rural tax problem in Pennsylvania. F. P. Weaver. Mar. 1931.
264. 50th anniversary of the general fertilizer tests, 1881-1931, a summary of results obtained with commercial fertilizers, manure, lime, and land plaster during a period of 49 years. C. F. Noll, F. D. Gardner, and C. J. Irvin. May 1931.
265. Organizations affecting farm youth in Locust Township, Columbia County. W. V. Dennis. June 1931.
266. 44th annual report for the fiscal year ending June 30, 1931. R. L. Watts [and others]. July 1931.
267. Farm electric milk refrigeration. J. E. Nicholas. Apr. 1931.
268. Membership problems in farmers' cooperative purchasing associations. J. K. Stern. July 1931.
269. The measurement of mine props, linear foot, top diameter, weight and volume tables. A. C. McIntyre and G. L. Schnur. Sept. 1931.
270. Mushroom insects, their biology and control. C. A. Thomas. Oct. 1931.
271. (Technical bulletin.) Dry skim milk in ice cream. C. D. Dahle, C. C. Walts, and J. I. Keith. Oct. 1931.
272. Some effects of intertillage on crops and soils. F. G. Merkle and C. J. Irvin. Jan. 1931.
273. (Technical bulletin.) Fiftieth anniversary of the Jordan soil fertility plots. Jan. 1932.
274. Tobacco seed bed management as related to wildfire control. W. S. Beach. Feb. 1932.

- 275. (Technical bulletin.) Factors influencing the vitamin content of foods. R. A. Dutcher. Mar. 1932.
- 276. (Technical bulletin.) The effect of irradiation on the electrophoretic velocity, viability, agglutinability, lysis, and pH of *Escherichia coli*. M. W. Lisse, R. P. Tittsler, and G. R. Sharpless. Mar. 1932.
- 277. Emergence cages and bait pails for timing codling moth sprays. H. N. Worthley. Apr. 1932.
- 278. Potato marketing in Pennsylvania. F. F. Lininger. May 1932.
- 279. 45th annual report for the fiscal year ended June 30, 1932. R. L. Watts [and others]. Aug. 1932.
- 280. The maple products industry of Pennsylvania. A. C. McIntyre. Aug. 1932.
- 281. Marketing Pennsylvania potatoes in fifteen-pound containers. T. K. Cowden. Oct. 1932.
- 282. A farm management survey of Tioga County, Pennsylvania. J. E. McCord. Nov. 1932.

PUERTO RICO AGRICULTURAL EXPERIMENT STATION, MAYAGUEZ

BULLETIN

- 34. Experiments with fertilizers on coconut palms and variation in palm productivity. T. B. McClelland. June 1931. Also Spanish edition.

RHODE ISLAND AGRICULTURAL EXPERIMENT STATION, KINGSTON

BULLETINS

- 227. A study of apple containers. R. B. Corbett and E. P. Christopher. Jan. 1931.
- 228. Inheritance of body-weight in domestic fowl. N. F. Waters. July 1931.
- 229. The fertilization of red raspberries. A. E. Stene. Aug. 1931.
- 230. A study of the organization and management of Rhode Island farms. J. L. Tennant. Sept. 1931.
- 231. Certain relationships of potash fertilization and varieties of potatoes to table value. Margaret Whittemore and B. M. Kuschke. Aug. 1931.
- 232. Utilization of citric acid and of sodium citrate by *Salmonella pullorum*. J. C. Weldin and A. R. Miller. Sept. 1931.
- 233. Etiological studies of blackhead (enterohepatitis) in turkeys. J. P. Delaplane. Jan. 1932.
- 234. Substituting fertilizers, green manure and peat for stable manure in the growing of vegetables. F. K. Crandall and T. E. Odland. Aug. 1932.
- 235. Crop yields and financial returns in a 5-year rotation of crops. T. E. Odland and S. C. Damon. Aug. 1932.
- 236. Relative efficiency of various organic supplements in the growth of greenhouse tomatoes. B. E. Gilbert and F. R. Pember. Aug. 1932.
- 237. A study of the milk and cream supply of Greater Providence, 1929-1931. J. G. Fielding. Aug. 1932.

SOUTH CAROLINA AGRICULTURAL EXPERIMENT STATION, CLEMSON COLLEGE

BULLETINS

- 269. Pee Dee farm management studies, 1925-1930. W. C. Jensen and B. A. Russell. Jan. 1931.
- 270. Cotton marketing studies, 1925-1930. W. C. Jensen, Marvin Guin, and H. A. White. Jan. 1931.
- 271. *Frankliniella fusca* Hinds (thrips) on seedling cotton. C. O. Eddy and E. M. Livingstone. Mar. 1931.
- 272. Care and management of the dairy bull. J. P. LaMaster. Apr. 1931.
- 273. Poultry feeding experiments: I, Cottonseed meal in laying and breeding rations; II, skim milk vs. meat scraps as supplements to cottonseed meal; III, ground barley vs. ground yellow corn in the mash for layers and breeders. C. L. Morgan. June 1931.
- 274. Rations for fattening hogs on soybean forage. E. G. Godbey. June 1931.
- 275. The play and recreation of children and youth in selected rural areas of South Carolina. M. E. Frayser. June 1931.
- 276. Analyses of commercial fertilizers. R. N. Brackett and D. H. Henry. Aug. 1931.
- 277. Rations for fattening swine, a comparison of hand and free-choice feeding of corn and fish meal to fattening hogs in dry lot and on green barley. E. G. Godbey. Aug. 1931.
- 278. Biological studies of the oriental fruit moth, 1930. C. O. Eddy and W. C. Nettles. Aug. 1931.
- 279. Relation of price to quality of South Carolina cotton, 1929-1930. Marvin Guin. Aug. 1931.
- 280. Farm power utilization and costs, South Carolina. B. A. Russell. Sept. 1931.
- 281. Dry lot rations for fattening hogs, a study of the relative value of protein supplements. E. G. Godbey and L. V. Starkey. Oct. 1931.
- 282. Agricultural finance in South Carolina. D. L. Wickens and W. C. Jensen. Nov. 1931.
- 283. Experiments on rate and time of applying sodium nitrate. W. B. Rogers. Apr. 1932.
- 284. Analyses of commercial fertilizers. R. N. Brackett and J. H. Woodward. Aug. 1932.
- 285. The taxation of farmers in South Carolina. G. H. Aull. Oct. 1932.
- 286. Taxation and ability to pay in South Carolina. G. H. Aull. Nov. 1932.

STATISTICAL BULLETIN

- 1. South Carolina agriculture, a statistical report. July 1931.

SOUTH DAKOTA AGRICULTURAL EXPERIMENT STATION, BROOKINGS

BULLETINS

257. Clarification vs. filtration of milk. D. H. Jacobsen and T. M. Olson. Apr. 1931.
258. Rural health situation in South Dakota. W. F. Kumlien. Apr. 1931.
259. Prices paid to producers of South Dakota farm products, 1890-1930. J. L. Orr. Apr. 1931.
260. The ornamental trees of South Dakota. N. E. Hansen. Apr. 1931.
261. The vitamin C content of fresh and canned spinach, Swiss chard, asparagus, and carrots. G. E. Wasson. Apr. 1931.
262. Barley as a fattening feed for cattle and swine in South Dakota. J. W. Wilson and Turner Wright. Apr. 1931.
263. The shrubs and climbing vines of South Dakota. N. E. Hansen. Aug. 1931.
264. Emmer (speltz) for dairy cows. T. M. Olson. Sept. 1931.
265. A comparison of alfalfa, sweet clover, and sudan grass as pasture crops for dairy cows. T. M. Olson and B. L. Robinson. Sept. 1931.
266. Essentials in the success of a local cooperative creamery. T. M. Olson and C. C. Totman. Sept. 1931.
267. Destroy the grasshopper eggs. H. C. Severin and G. I. Gilbertson. Oct. 1931.
268. Spring wheat varieties for South Dakota. K. H. Klages. Nov. 1931.
269. Freight rates and the South Dakota farmer. M. R. Benedict. Feb. 1932.
270. Variations in amounts of carbohydrates in the leaves of corn. L. F. Puhr and A. N. Hume. Mar. 1932.
271. Rye as a fattening feed for cattle and swine in South Dakota. J. W. Wilson and Turner Wright. Mar. 1932.
272. Crop yields over nineteen years from Highmore experiment farm. A. N. Hume. July 1932.
273. The effect of milk foam on dairy calves. T. M. Olson. Sept. 1932.
274. South Dakota town-country trade relations, 1901-1931. P. H. Landis. Sept. 1932.

TENNESSEE AGRICULTURAL EXPERIMENT STATION, KNOXVILLE

BULLETINS

145. The more important diseases of apples in Tennessee. C. D. Sherbakoff. May 1932.
146. The McClintock strawberry. B. D. Drain. Sept. 1932.

TEXAS AGRICULTURAL EXPERIMENT STATION, COLLEGE STATION

BULLETINS

421. A chemical and microbiological study of Lufkin fine sandy loam in relation to productiveness. E. B. Reynolds. Jan. 1931.
422. Variations in vitamin A and in chemical composition of corn. G. S. Fraps. Mar. 1931.
423. Cotton root-rot and its control. J. J. Taubenhaus and W. N. Ezekiel. Apr. 1931.
424. Grain sorghum date-of-planting and spacing experiments. R. E. Karper, J. R. Quinby, D. L. Jones, and R. E. Dickson. Apr. 1931.
425. The estimation of salt and molasses in mixed feeds. G. S. Fraps. May 1931.
426. Determination of soil moisture by the method of multiple electrodes. W. H. McCorkle. Apr. 1931.
427. Type-of-farming areas in Texas. C. A. Bonnen and F. F. Elliott. May 1931.
428. The fertilizing value of greensand. G. S. Fraps. June 1931.
429. The effect of cottonseed meal and other feeds on the storage quality of eggs. R. M. Sherwood. July 1931.
430. Chemical composition of soils of Cameron, Coleman, Dallas, Erath, Harris, Reeves, Rockwall and Tarrant Counties. G. S. Fraps. July 1931.
431. The soils of Texas. W. T. Carter. July 1931.
432. Manganese in Texas soils and its relation to crops. E. C. Carlyle. Aug. 1931.
433. Bitterweed poisoning in sheep. W. T. Hardy, V. L. Cory, H. Schmidt, and W. H. Dameron. Aug. 1931.
434. Commercial fertilizers in 1930-31 and their uses. G. S. Fraps and S. E. Asbury. Sept. 1931.
435. The control of fire ants in the Lower Rio Grande Valley. S. W. Clark. Nov. 1931.
436. Productive energy of feeds calculated from feeding experiments with sheep. G. S. Fraps. Nov. 1931.
437. Digestibility by chickens of the constituents of nitrogen-free extract of feeds. G. S. Fraps. Nov. 1931.
438. Tomato varieties and fertilizers for the Lower Rio Grande Valley of Texas. W. H. Friend. Nov. 1931.
439. Estimation of nitric and nitrous nitrogen in soils. G. S. Fraps and A. J. Sterges. Nov. 1931.
440. Commercial feeding stuffs, from September 1, 1930, to August 31, 1931. F. D. Fuller, James Sullivan, and S. D. Pearce. Dec. 1931.
441. The relation of lime and phosphoric acid to the growth and bone development of white rats. J. K. Blum. Dec. 1931.

442. Relations of buffer capacity for acids to basicity and exchangeable bases of the soil. G. S. Fraps and J. F. Fudge. Mar. 1932.
443. Chemical composition of soils of northwest and west central Texas. G. S. Fraps. Mar. 1932.
444. Economic phases of the mohair industry in Texas. T. R. Hamilton. Mar. 1932.
445. The composition and fertilizing value of sewage sludge. G. S. Fraps. Apr. 1932.
446. Storage experiments with Texas citrus fruit. W. H. Friend and W. J. Bach. Apr. 1932.
447. Trees and shrubs in northwest Texas. D. L. Jones, Frank Gaines, and R. E. Karper. Apr. 1932.
448. Stomach worms in sheep and goats. W. T. Hardy and H. Schmidt. Apr. 1932.
449. Availability to plants of potash in polyhalite. G. S. Fraps. Apr. 1932.
450. Economic efficiency of Texas country banks. V. P. Lee. May 1932.
451. The comparative value of cottonseed hulls and hay as roughages for growing dairy heifers. O. C. Copeland. July 1932.
452. The mechanical harvesting of cotton. H. P. Smith [and others]. Aug. 1932.
453. An economic study of farm organization in the Piney Woods farming area of Texas. C. A. Bonnen, B. H. Thibodeaux, and J. F. Criswell. Sept. 1932.
454. Digestibility and production coefficients of hog feeds. G. S. Fraps. Sept. 1932.
455. California red scale and its control in the Lower Rio Grande Valley of Texas. S. W. Clark and W. H. Friend. Sept. 1932.
456. Locomism in domestic animals. F. P. Mathews. Sept. 1932.
457. Soremouth (contagious ecthyma) in sheep and goats. H. Schmidt and W. T. Hardy. Sept. 1932.
458. Inequalities in taxation of farm lands and city property due to scope and method of assessment. L. P. Gabbard. Sept. 1932.
459. Grain sorghum varieties in Texas. R. E. Karper, J. R. Quinby, D. L. Jones, and R. E. Dickson. Sept. 1932.
460. Commercial fertilizers in 1931-32 and their uses. G. S. Fraps and S. E. Asbury. Oct. 1932.
461. The composition and utilization of Texas feeding stuffs. G. S. Fraps. Nov. 1932.
462. Lime and phosphoric acid requirements for chicks. R. M. Sherwood. Nov. 1932.
463. Probability tables for Mendelian ratios with small numbers. B. L. Warwick. Dec. 1932.
464. Control of the bitterweed plant poisonous to sheep in the Edwards Plateau region. S. E. Jones, W. H. Hill, and T. A. Bond. Nov. 1932.
465. Fattening lambs on corn, milo, hegari, wheat, and oats, with cottonseed cake and alfalfa. A. K. Mackey and J. M. Jones. Dec. 1932.
466. Fig culture in the Gulf Coast region of Texas. R. H. Stansel and R. H. Wyche. Dec. 1932.
467. Commercial feeding stuffs, from September 1, 1931, to August 31, 1932. F. D. Fuller and James Sullivan. Dec. 1932.
468. The quantities of vitamin A required by pullets for maintenance and for egg production. R. M. Sherwood and G. S. Fraps. Dec. 1932.
469. Fertilizer experiments with cotton. E. B. Reynolds [and others]. Dec. 1932.
470. Creep-feeding range calves, progress report. J. M. Jones and J. N. Jones. Dec. 1932.
471. The relation of body shape of feeder steers to rate of gain, to dressing percent, and to value of dressed carcass. J. L. Lush. Dec. 1932.
472. Alfalfa production under irrigation in western Texas. J. J. Bayles. Dec. 1932.
473. Sorghum silage as a source of vitamin A for dairy cows. O. C. Copeland and G. S. Fraps. Dec. 1932.

UTAH AGRICULTURAL EXPERIMENT STATION, LOGAN

BULLETINS

224. Muck soil investigations, progress report, Sanpete County experimental farm, 1927-30, inclusive. LeMoyné Wilson and George Stewart. Apr. 1931.
225. Progress report, Carbon County experimental farm, 1927-30, inclusive. I. D. Zobell and George Stewart. Apr. 1931.
226. Alfalfa-seed production. J. W. Carlson and George Stewart. May 1931.
227. Soft-curd milk. R. L. Hill. June 1931.
228. Twenty years of rotation and manuring experiments at Logan, Utah. George Stewart and D. W. Pittman. June 1931.
229. Production study of 160 dairy herds, Wellsville, Utah, 1929. G. Q. Bateman. June 1931.
230. San Juan County experimental farm, progress report, 1925-30, inclusive. J. H. Eagar and A. F. Bracken. June 1931.
231. (Technical.) Snow-melting characteristics. G. D. Clyde. Aug. 1931.
232. Family living expenditures, Summit County, Utah, 1930. Edith Hayball and W. P. Thomas. Nov. 1931.
233. Observations on the use of commercial fertilizers on the arid soils of Utah. D. W. Pittman and Clarence Burnham. Jan. 1932.
234. (Technical.) The beet leafhopper in northern Utah. G. F. Knowlton. May 1932.
235. Biennial report, Utah agricultural experiment station, July 1, 1930, to June 30, 1932. P. V. Cardon. Aug. 1932.

- 236. The manufacture of cheese from soft-curd and hard-curd milks. R. L. Hill and A. C. Merrill. Aug. 1932.
- 237. Panguitch livestock experimental farm, progress report. B. F. Hulme. Oct. 1932.
- 238. Lamb-fattening experiments in Utah. E. J. Maynard, A. C. Esplin, and S. R. Boswell. Dec. 1932.
- 239. Wet beet pulp compared with corn silage in the dairy ration. G. Q. Bateman and G. B. Caine. Nov. 1932.
- 240. Effect of feed, water, and shelter upon fleeces of Utah ewes. A. C. Esplin. Dec. 1932.
- 241. Peach harvesting studies. F. M. Coe. Apr. 1933.
- 242. Drainage of land overlying an artesian ground-water reservoir, progress report. O. W. Israelsen and W. W. McLaughlin. Nov. 1932.

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- 326. The production of high quality milk: III, Electric cooling versus ice cooling. J. A. Newlander. Apr. 1931.
- 327. Food consumption of fifty Vermont farm households. Marianne Muse and Isabelle Gillum. Apr. 1931.
- 328. Commercial feeding stuffs. L. S. Walker and E. F. Boyce. Apr. 1931.
- 329. Studies in Vermont dairy farming: VII, Charlotte, Ferrisburg, and Pantown area. H. P. Young. May 1931.
- 330. The effect of extension education on the seasonal surplus milk problem in Addison County, Vermont. J. E. Carrigan. July 1931.
- 331. Calcium and phosphorus requirements of dairy cows: I, Weekly balances through lactation and gestation periods. H. B. Ellenberger, J. A. Newlander, and C. H. Jones. July 1931.
- 332. Forty-fourth annual report, 1930-1931. J. L. Hills. Aug. 1931.
- 333. The supplemental value of fish meal as a feed for dairy cattle. M. H. Campbell. Aug. 1931.
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- 335. Cooperative creamery operation in Vermont. O. M. Camburn. Sept. 1931.
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- 338. Commercial feeding stuffs. L. S. Walker and E. F. Boyce. June 1932.
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- 340. The standard of living on specific owner-operated Vermont farms. Marianne Muse. June 1932.
- 341. A study of the fat-globule size in milk. M. H. Campbell. June 1932.
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- 277. The waste sulphite material of paper mills as an adjuvant to certain spray materials. R. H. Hurt. Feb. 1931.
- 278. Removal of spray residue from apples. W. S. Hough, R. H. Hurt, W. B. Ellett, J. F. Eheart, and A. B. Groves. June 1931.
- 279. The taxation system of Virginia. R. A. Ballinger. July 1931.
- 280. Manufacturing and marketing dairy products in Virginia. J. L. Maxton. Aug. 1931.
- 281. The use of peanut meal as a source of protein in starting mash for chicks. R. L. Bryant. Aug. 1931.
- 282. The receipts and expenditures of Virginia counties. R. A. Ballinger. Dec. 1931.
- 283. Leafhoppers injurious to apple trees. W. J. Schoene. Jan. 1932.
- 284. Experiments with lime, fertilizers, and varieties of field crops in the cotton and peanut section of Virginia. E. T. Batten and T. B. Hutcheson. May 1932.
- 285. Marketing Virginia tobacco. R. A. Ballinger and J. L. Maxton. May 1932.
- 286. An economic study of cooperative buying and selling among farmers in Virginia. R. C. Talbot. June 1932.
- 287. Membership relations in community organizations, a study of factors affecting organizational attitudes. W. E. Garnett and A. C. Seymour. June 1932.

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43. The value of husk protection to corn ears in limiting corn earworm injury. W. J. Phillips and G. W. Barber. July 1931.
44. A study of lymphomatosis of fowls (fowl paralysis). E. P. Johnson. May 1932.
45. Feeding alfalfa and timothy hays to dairy cows, the milk production values and calcium and phosphorus utilization of these hays after balancing the protein in the ration. C. W. Holdaway, W. B. Ellett, J. F. Eheart, and H. G. Cunningham, Jr. Nov. 1932.

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246. Potato growing in the irrigated districts of Washington. H. J. Jensen and O. M. Morris. Jan. 1931.
247. Oil sprays for dormant use. Anthony Spuler, F. L. Overley, and E. L. Green. Jan. 1931.
248. The efficiency of the home laundry plant. E. H. Roberts. Feb. 1931.
249. Relation of foliage to fruit size and quality in apples and pears. J. R. Magness, F. L. Overley, and W. A. Luce. Feb. 1931.
250. The mosaic disease of beets. L. K. Jones. Mar. 1931.
251. Baking vegetables electrically. V. W. Swartz. Feb. 1931.
252. Oil sprays for summer use. Anthony Spuler, F. L. Overley, and E. L. Green. May 1931.
253. (Technical.) The rots of Washington apples in cold storage. F. D. Heald and G. D. Ruehle. May 1931.
254. Methods of feeding Leghorn hens. J. S. Carver. July 1931.
255. Cost of wheat production by power methods of farming, 1919-1929. J. G. Klemgard and G. F. Cadisch. June 1931.
256. Wheat varieties of Washington in 1929. E. F. Gaines and E. G. Schafer. July 1931.
257. Local rural leaders in Washington. H. W. Starling and F. R. Yoder. Sept. 1931.
258. Lamb feeding experiments. Howard Hackedorn, Jerry Sotola, and H. P. Singleton. Sept. 1931.
259. (Technical.) The effect of certain potato and tobacco viruses on tomato plants. Grover Burnett and L. K. Jones. Dec. 1931.
260. Forty-first annual report for the fiscal year ended June 30, 1931. E. C. Johnson [and others]. Dec. 1931.
261. Potato flea-beetles in Washington. R. L. Webster, W. W. Baker, and A. J. Hanson. Apr. 1932.
262. Grain elevating machinery for the Palouse country. H. L. Garver. Mar. 1932.
263. (Technical.) A simplified method of standardizing ice cream mixes and correcting offbatches. H. A. Bendixen. May 1932.
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266. Peach maturity at harvest as related to quality. O. M. Morris. July 1932.
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269. Grading cream for buttermaking. H. A. Bendixen and E. V. Ellington. July 1932.
270. The feeding value of dried apple pomace for dairy cows. J. C. Knott, R. E. Hodgson, and E. V. Ellington. July 1932.
271. Erosive effects of heavy summer rains in southeastern Washington. W. A. Rockie and P. C. McGrew. July 1932.
272. Fusarium wilt of peas with special reference to dissemination. K. J. Kadow and L. K. Jones. July 1932.
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274. The effect of fertilizers on crop yields of different soils and on the composition of certain crops. S. C. Vandecaveye and G. O. Baker. Aug. 1932.
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- 19-W. Head lettuce in western Washington: Culture. H. D. Locklin.— Diseases. G. A. Newton. Jan. 1931.

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240. Effects of pruning on growth and yield of cherry trees. H. L. Crane. Mar. 1931.
241. Four-H club work in West Virginia. T. L. Harris. Apr. 1931.
242. Northern and native-grown potato seed stock. K. C. Westover. June 1931.
243. Soybean culture and varieties. M. M. Hoover, T. C. McIlvaine, and R. J. Garber. Sept. 1931.
244. Report of the West Virginia agricultural experiment station for the biennium ending June 30, 1930.
F. D. Fromme. Nov. 1931.
245. Seed-borne parasites, a bibliography. C. R. Orton. Dec. 1931.
246. The pistol-case bearer. Edwin Gould. Dec. 1931.
247. Pekwa, a new soybean. R. J. Garber and M. M. Hoover. Jan. 1932.
248. The pathogenicity and the variability of *Fusarium moniliforme* from corn. L. H. Leonian. Mar. 1932.
249. Efficiency of cooperative livestock shipping associations in West Virginia. W. W. Armentrout.
May 1932.
250. Varietal experiments with red clover and alfalfa, and field tests with meadow mixtures. R. J. Garber
and T. E. Odland. June 1932.
251. Finishing calves for the market as baby-beeves, two-year-old, and three-year-old steers. E. A. Livesay
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252. The fertilization of apple orchards: III, A comparison of nitrate of soda and sulphate of ammonia.
H. E. Knowlton and M. B. Hoffman. June 1932.
253. Inheritance studies of the reaction of selfed lines of maize to smut (*Ustilago zeae*). M. M. Hoover.
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254. Report of the West Virginia agricultural experiment station for the biennium ending June 30, 1932.
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419. The Wisconsin self-feeder for hogs. Gustav Bohstedt. Feb. 1931.
420. A year's service of research: Annual report of the director, 1929-1930. H. L. Russell [and others]. Feb.
1931. Compiled by Noble Clark.
421. Meeting agriculture's old and new problems with the aid of science: Annual report of the director,
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422. Recreation as a land use. G. S. Wehrwein and K. H. Parsons. Apr. 1932.
423. Who pays for the highways? B. H. Hibbard and C. F. Wehrwein. Aug. 1932.

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106. The effectiveness of Rhizobia, as influenced by passage through the host plant. O. N. Allen and
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107. Resistance to *Fusarium* wilt in garden, canning and field peas. J. C. Walker. Feb. 1931.
108. Standardization of milk for the manufacture of American cheese. W. V. Price and Leo Germain.
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109. Logging slash and forest protection. Raphael Zon and R. N. Cunningham. Mar. 1931.
110. The relation of air conditions to tobacco curing. James Johnson and W. B. Ogden. July 1931.
111. Wisconsin studies on aster diseases and their control. L. R. Jones and R. S. Riker. Sept. 1931.
112. The relation of nutrition to contagious cattle abortion. E. B. Hart, F. B. Hadley, and G. C. Humphrey.
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113. An economic study of the Milwaukee milk market. W. P. Mortenson. Jan. 1932.

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177. Bacterial wilt of alfalfa. J. S. Wiant. Apr. 1931.
178. Studies with Hampshire sheep, No. 1. F. S. Hultz and M. A. Alexander. May 1931.
179. Shelterbelts and fruits. A. L. Nelson. May 1931.
180. Vegetable cookery at high altitudes. E. J. Thiessen. June 1931.
181. Oat varieties for northeastern Wyoming. R. S. Towle. June 1931.
182. Grain mixtures supplementary to Wyoming native hay for milk production. H. S. Willard. June
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183. Necrobacillosis of calves (calf diphtheria). Cecil Elder, A. M. Lee, and L. H. Scrivner. Aug. 1931.
184. Wyoming forage plants and their chemical composition: Studies No. 9. O. C. McCreary. Aug. 1931.

185. Barley tests at the Sheridan field station. R. S. Towle and R. M. Williams. Mar. 1932.
186. A comparative test of the Caucasian with the Italian race of honeybees. C. L. Corkins and C. H. Gilbert. Mar. 1932.
187. The metabolism of honeybees in winter cluster. C. L. Corkins and C. S. Gilbert. Mar. 1932.
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189. Three poisonous vetches. O. A. Beath, J. H. Draize, and H. F. Eppson. May 1932.
190. Drifting of honeybees. C. L. Corkins. Aug. 1932.
191. Fattening lambs in sugar beet districts. W. L. Quayle. Dec. 1932.
192. Growing trees in northeastern Wyoming. P. K. Thompson. Dec. 1932.

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